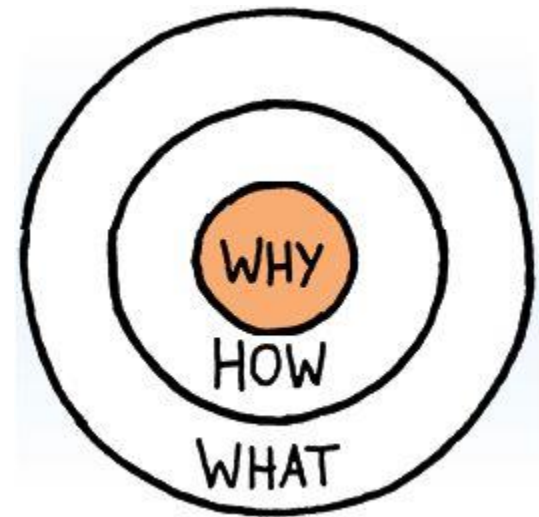




An analysis of Alpine Skiing 2016

## Rationale for Project

- ❑ To gain a better understanding of the development pathways in ski racing, with a goal to provide insight toward development and improvement in the future of USA ski racing
- ❑ To identify the motives, processes, people, cultures that drive elite performance from junior levels to World Cup competition
- ❑ To produce a body of knowledge of best-practices and overarching themes to enable informed decision-making and alignment among:
  - Organizations
  - Coaches
  - Officials
  - Parents
  - Athletes
- ❑ To understand the European development system



## Phase I: Statistical Analysis

- ❑ Looked at World Cup Top 30 Men and Women – All events
  - Data as of end of 2015 season
- ❑ Compared tech vs. speed events. Looked for differences in trends.
- ❑ Compared men vs. women. Looked for differences in trends.
- ❑ Looked at today's top junior athletes, American and worldwide
  - Plotted today's juniors against World Cup Top 30 25<sup>th</sup> percentile



## Phase II:

# Understanding European Development System - Thought Leader Interviews

### ☐ Interviewed Thought Leaders

- Experts as recommended by USSA leadership. Conducted hour long interviews with current and former head coaches and sports science leaders from:
  - USA
  - Canada
  - Austria
  - Germany
  - Norway
  - Croatia
  - Italy
  - Switzerland
  - France
  - Russia



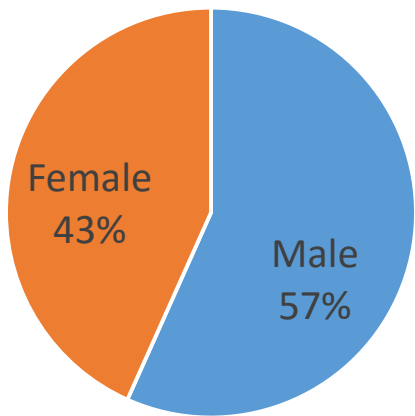
☐ Asked same questions of all

☐ Looked for commonalities

## Phase III: World Cup Athlete Online Survey

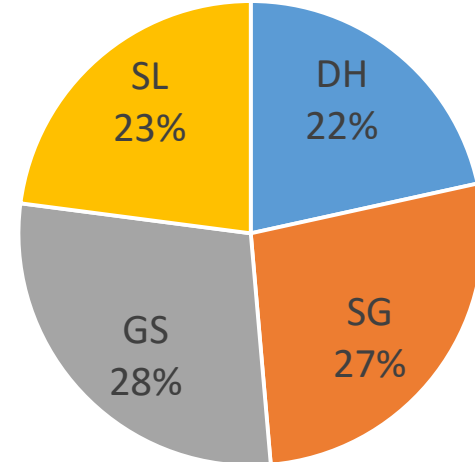
- ❑ An independent online survey was conducted among World Cup athletes
- ❑ Isolated WC Top 15 and American athletes to look at differences from overall group
- ❑ 37 questions focused on factors of development from early to elite stages
- ❑ 127 respondents
- ❑ 25 top 15 World Cup athletes, 50 top 30 World Cup athletes

Male vs. Female  
Respondents



■ Male ■ Female

Respondents' Primary Event



■ DH ■ SG ■ GS ■ SL

## Overarching Findings

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- 1) Ski racing is an inherently rewarding sport.
- 2) There are many roads that lead to Rome...but not all roads lead to Rome.
- 3) Ski racing is a skill sport.
- 4) Success is found at a young age.
- 5) Parents are the biggest influencers.
- 6) Skiing is cultural to Europeans.
- 7) Volume is critical to development.
- 8) Concentration, not specialization.
- 9) Speed skiers are also very good tech skiers.
- 10) USA juniors trail competitors.

Ski racing is an inherently rewarding sport.

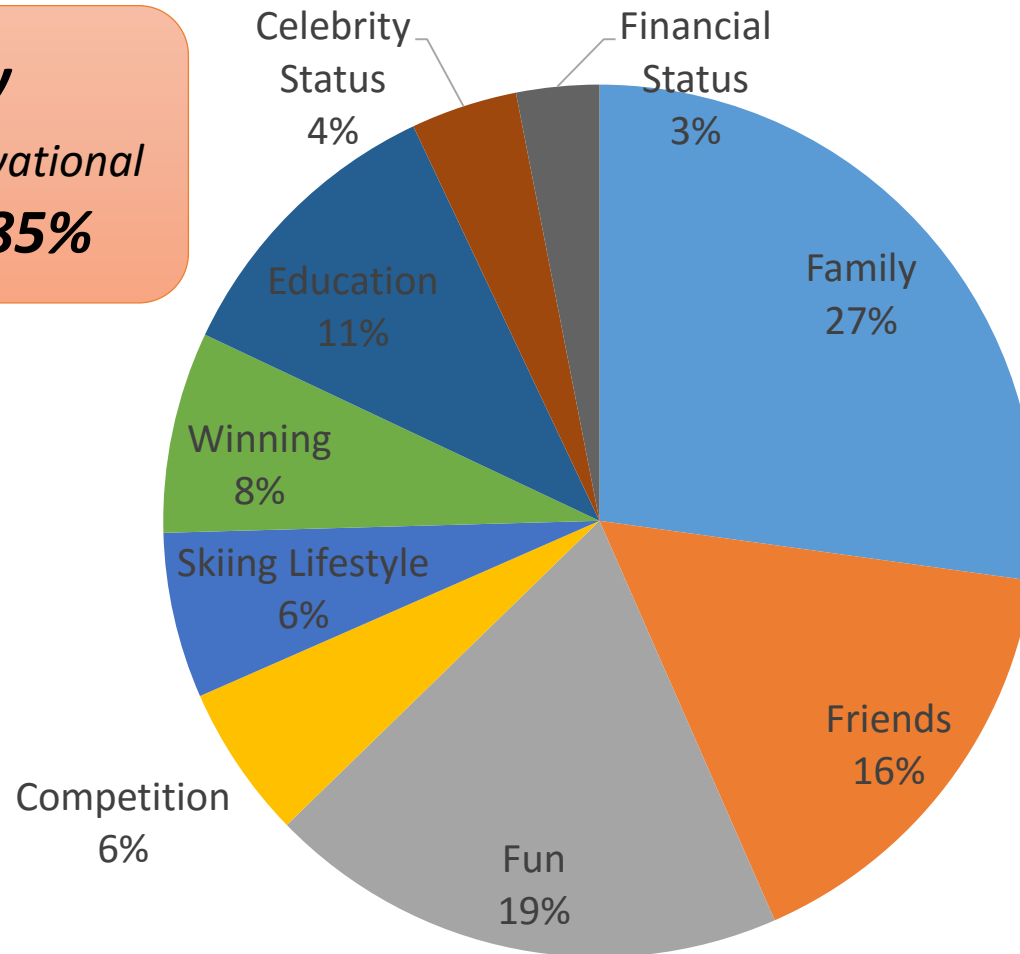
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Finding #1

What were the most important priorities in your life prior to becoming a professional?

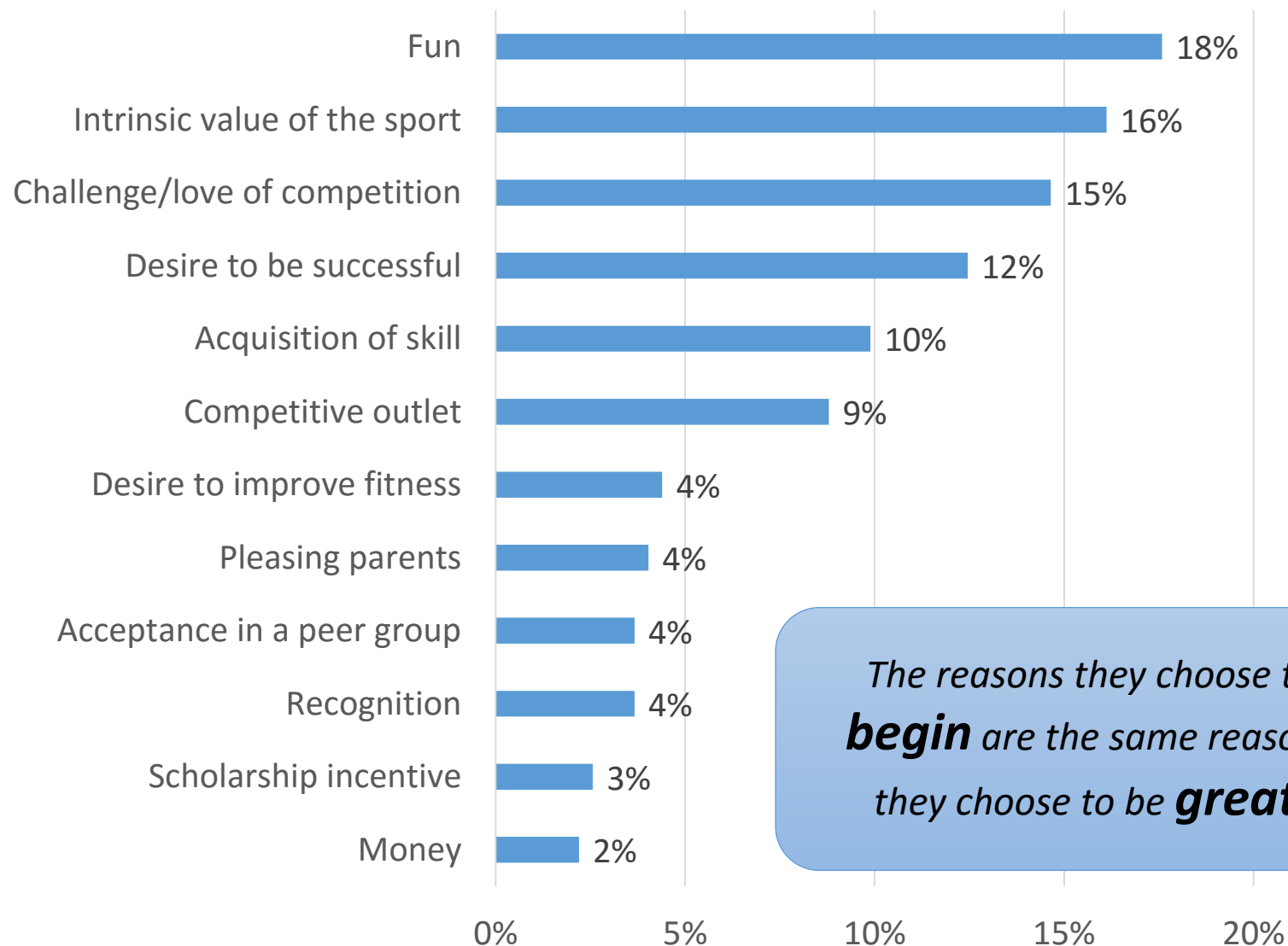
***Inherently  
rewarding*** motivational  
factors make up **85%**

*Ski racers are  
**NOT** driven  
by winning,  
celebrity  
status,  
financial  
status...*



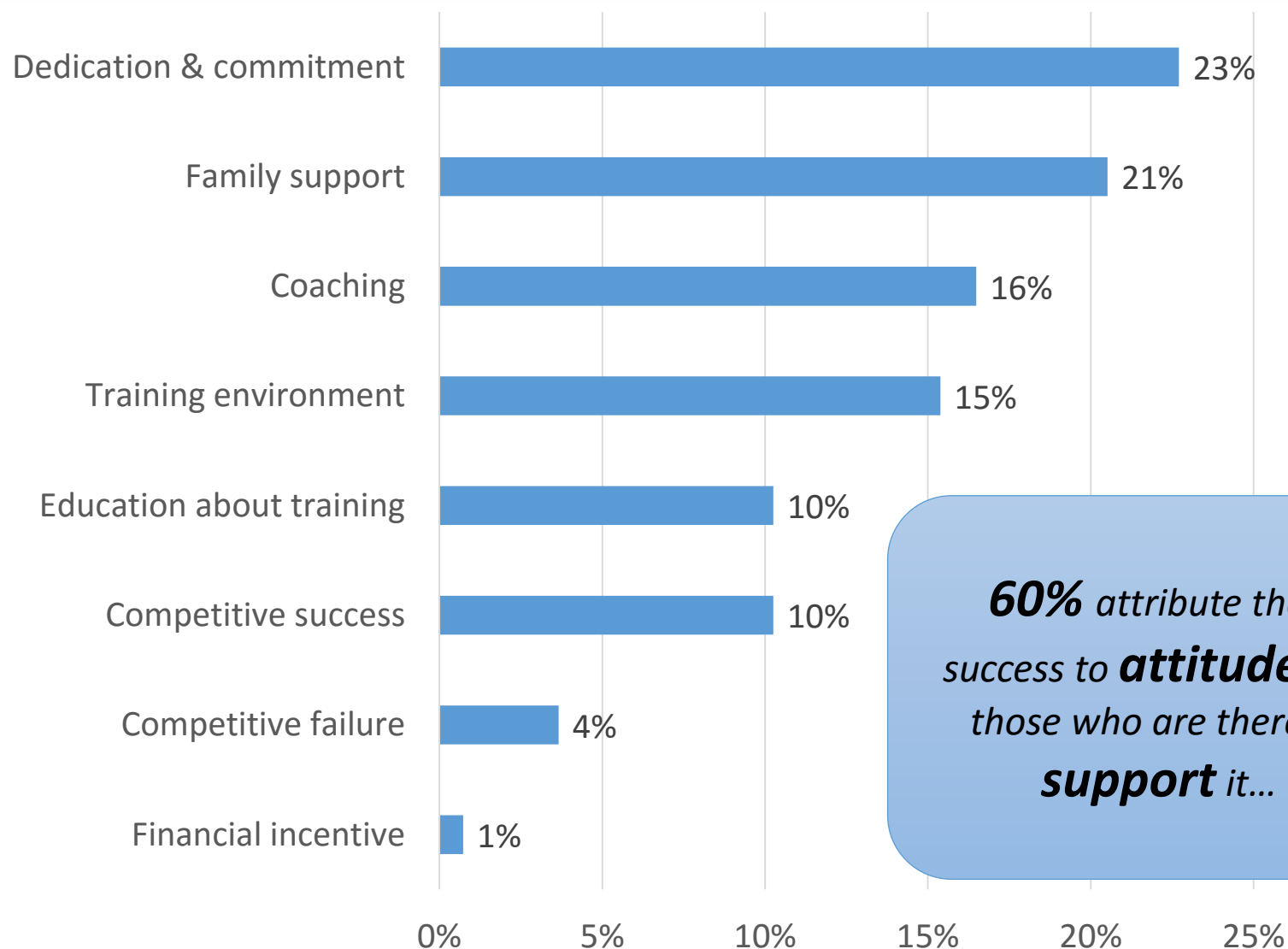
*Ski racers are **DRIVEN BY**  
family, friends, fun, lifestyle...*

# What were the most motivating factors in your decision to pursue excellence in ski racing?



*The reasons they choose to **begin** are the same reasons they choose to be **great**.*

# What do you consider the most important long-term factors contributing to your success?



***60%** attribute their success to **attitude** and those who are there to **support** it...*

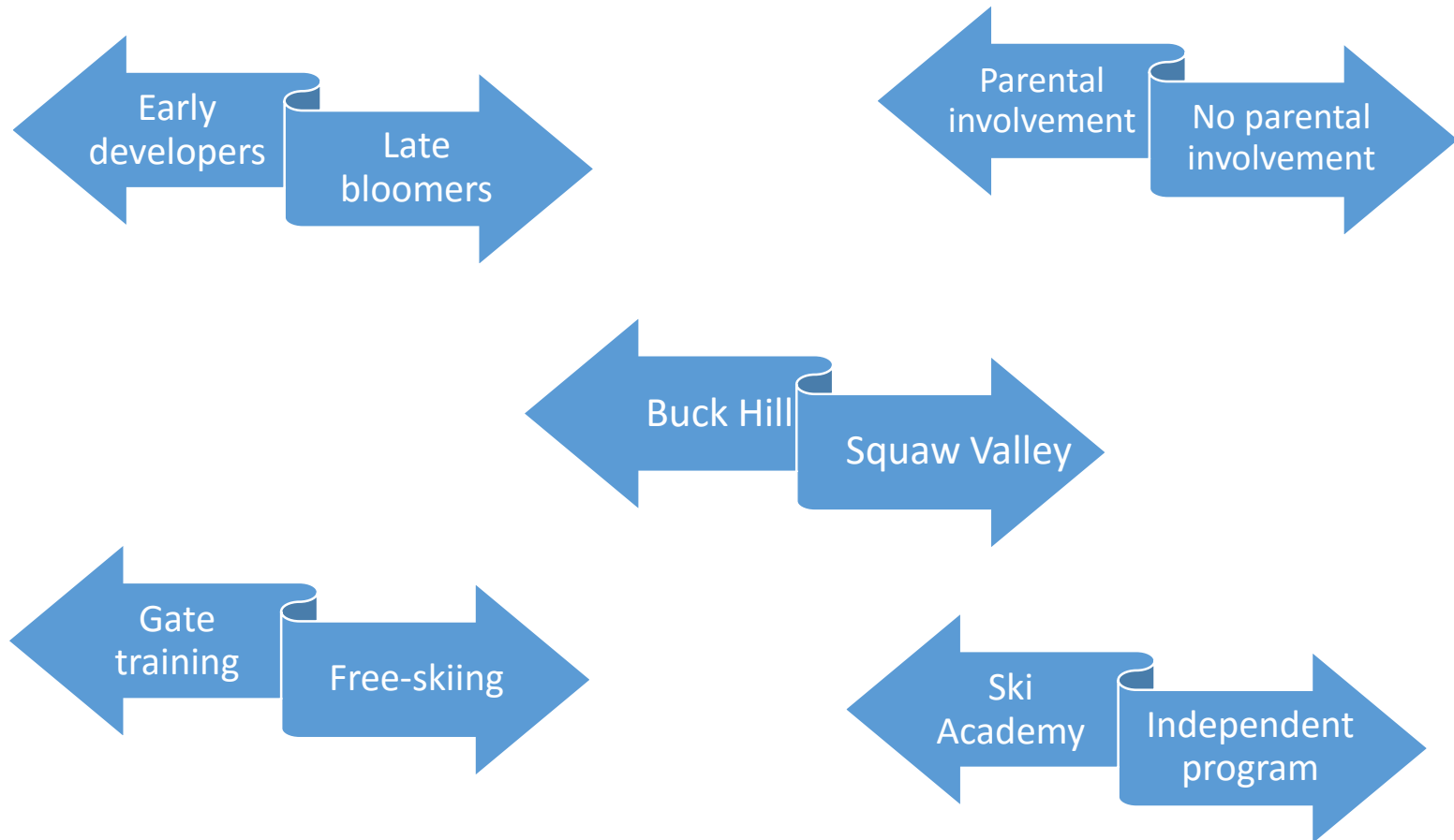
There are many roads to Rome...but not all roads lead to Rome.

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Finding #2

## There are many roads that lead to Rome...

- ❑ In ski racing, not all paths to excellence are the same
- ❑ Range of development paths among top 30 supports the individual and dynamic nature of the journey

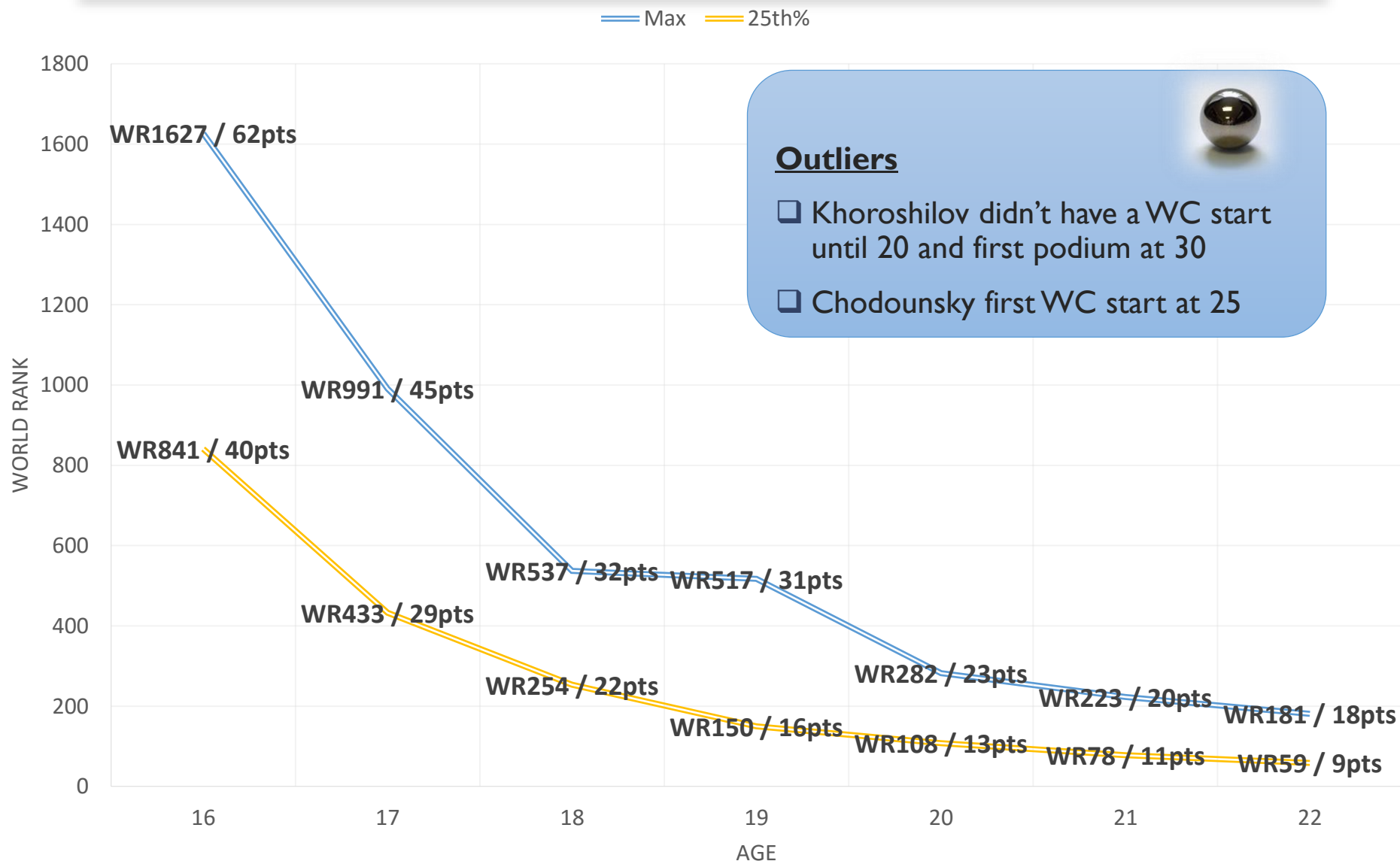


...but not all roads lead to Rome.

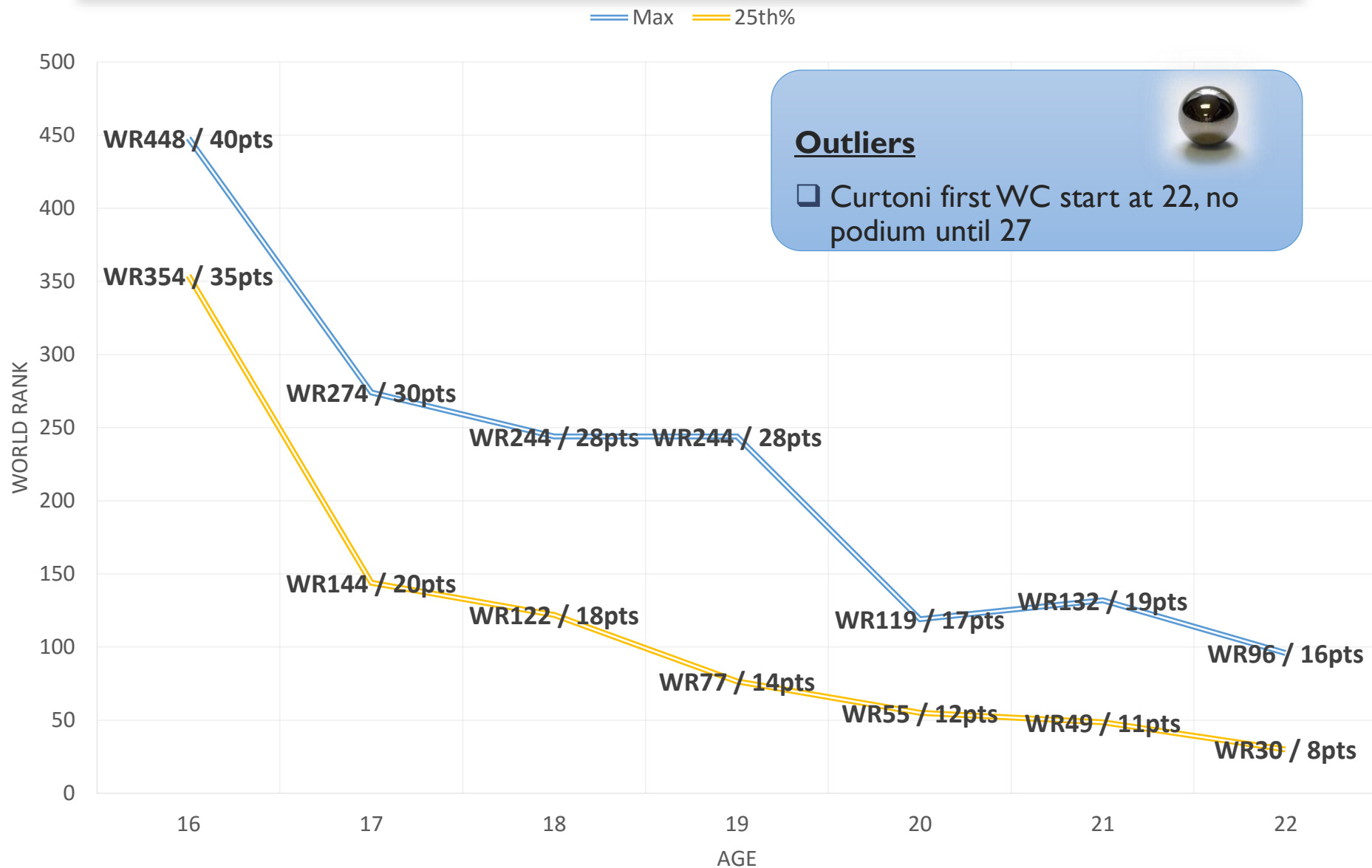
- ❑ Studying current World Cup Top 30 as juniors shows the paths athletes took to reach World Cup
  - There are important universal commonalities
  
- ❑ Establishing **25<sup>th</sup> percentile** benchmark includes the **top 75% of the field**
  - **22 of 30 athletes progressed within range**
  
- ❑ Progression that still yields a high probability of world cup success



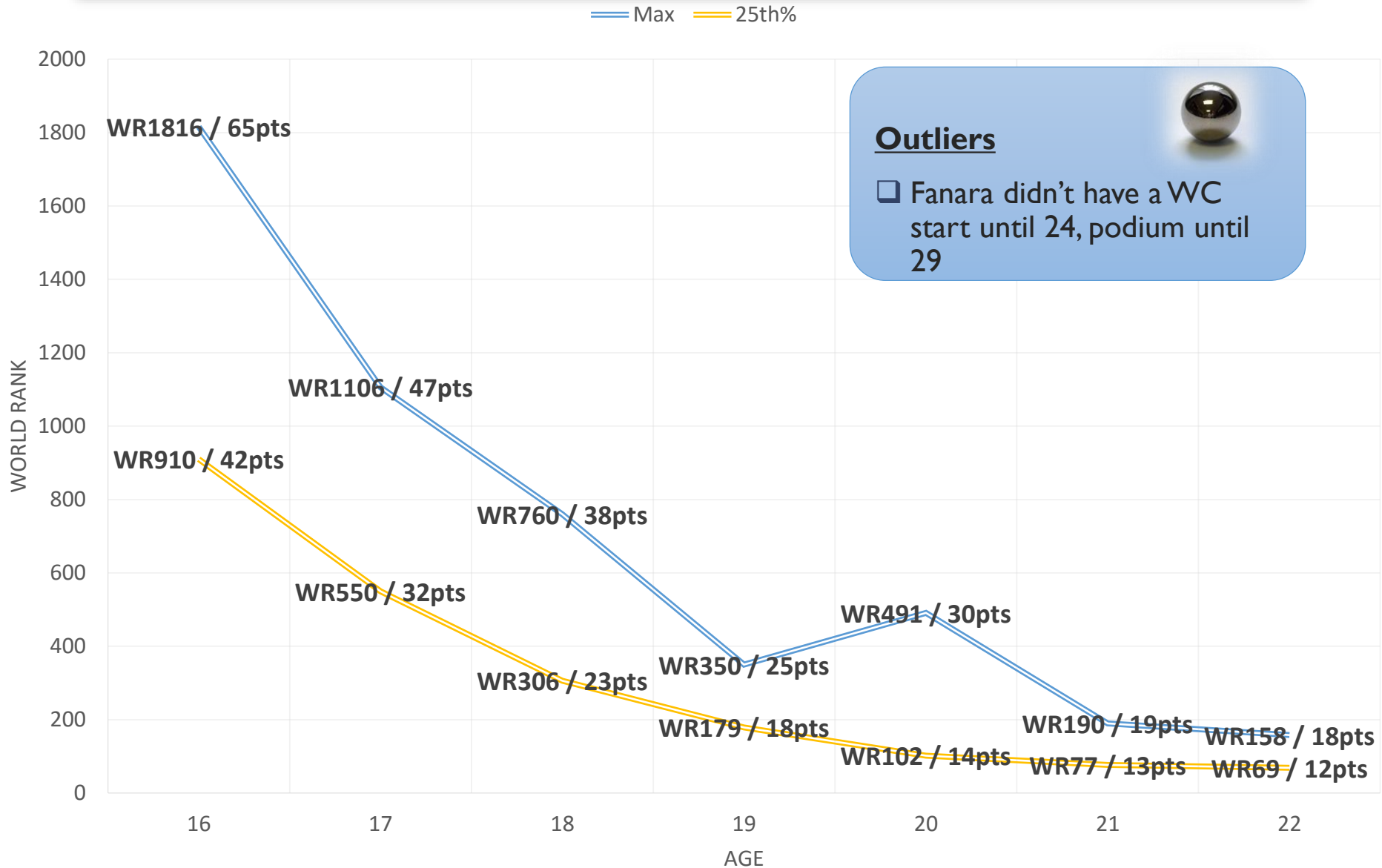
# World Cup Top 30 Men's Slalom – World Ranks as Juniors



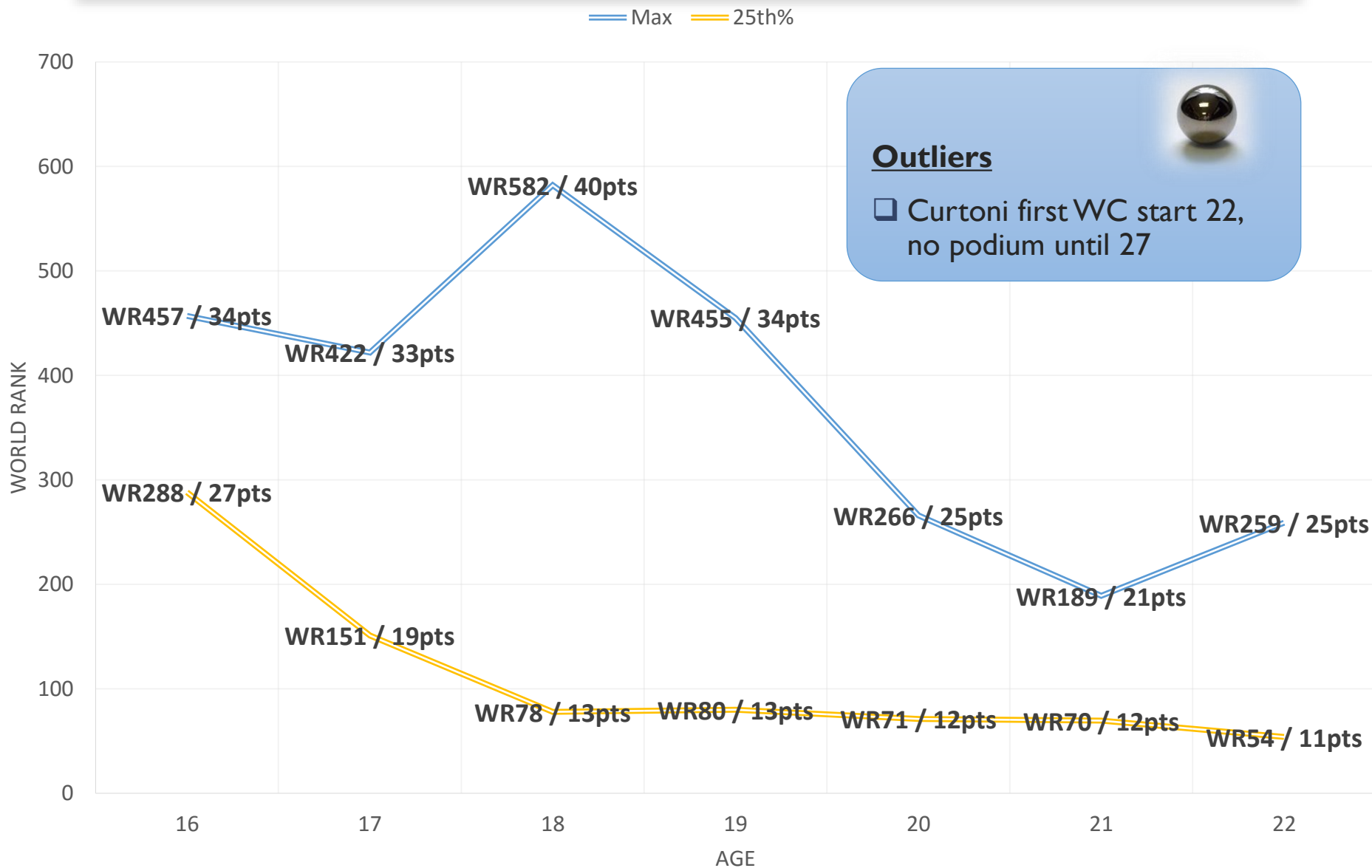
# World Cup Top 30 Women's Slalom – World Ranks as Juniors



# World Cup Top 30 Men's Giant Slalom – World Ranks as Juniors



# World Cup Top 30 Women's GS – World Ranks as Juniors



Ski racing is a skill sport.

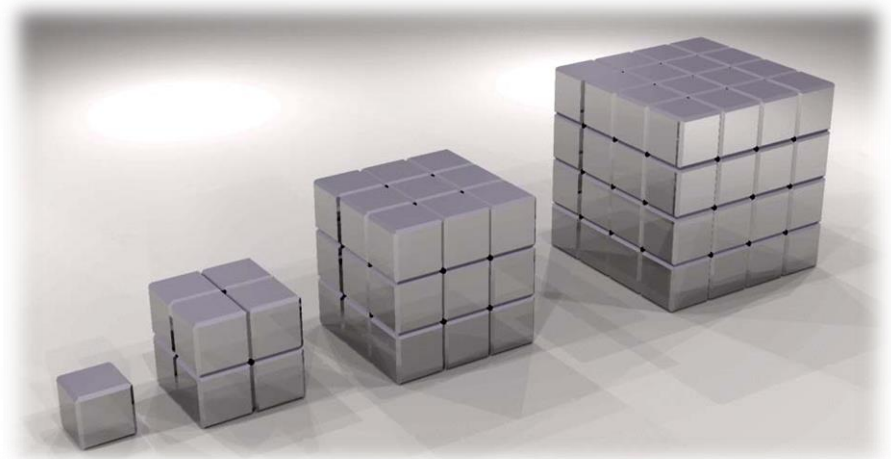
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Finding #3

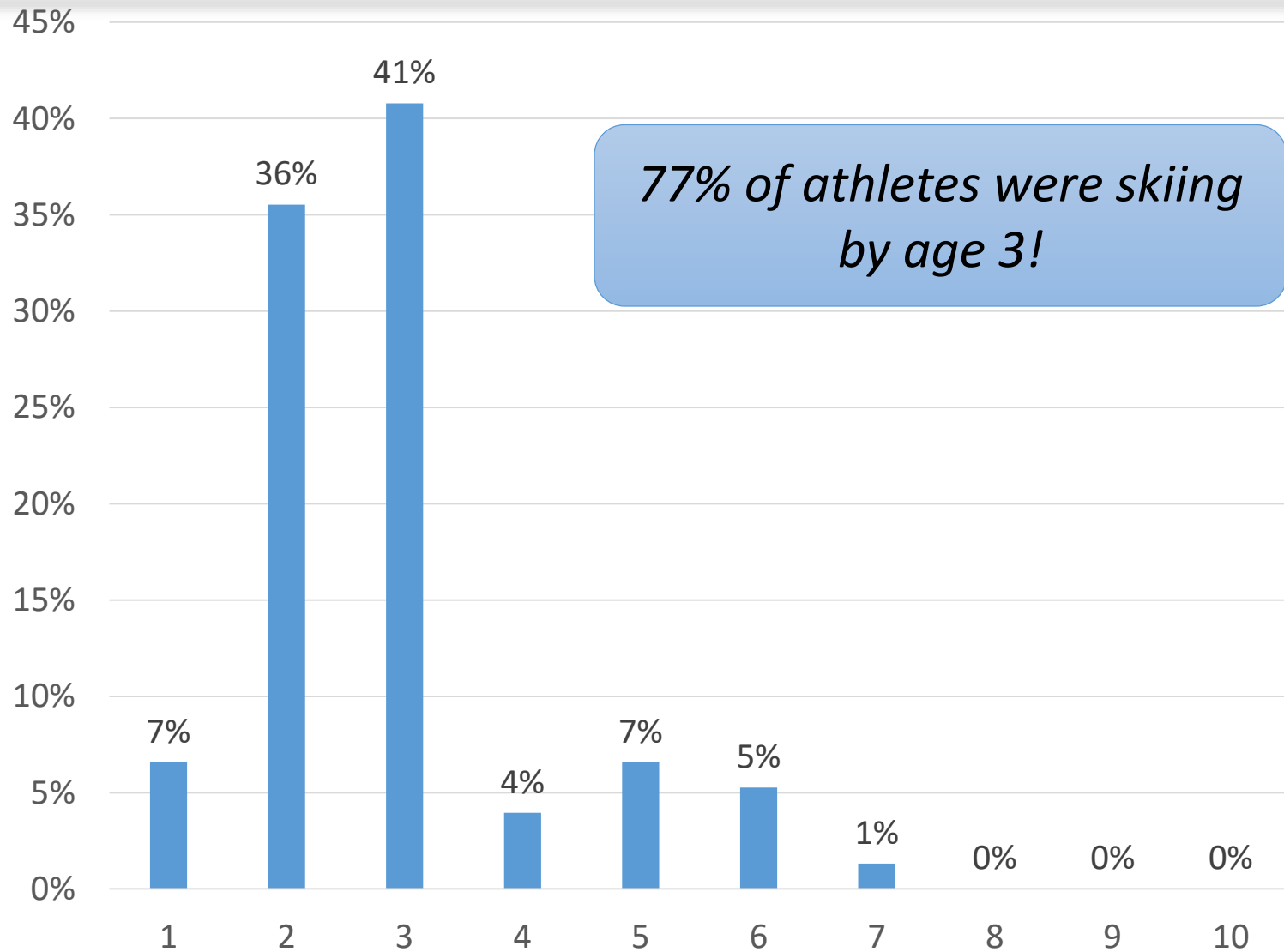
## Ski racing is a skill sport.

Based on thought leader consensus:

- ☐ Requires massive volume to reach the top (adaptability, balance, agility, come from volume)
- ☐ Nurture not nature
- ☐ Unlikely to reach the top if pursued recreationally
- ☐ Requires an environment of challenge
- ☐ Variety is critical (gates, drills, free-ski, terrain, surface, etc.)
- ☐ Purposeful skiing is most beneficial
- ☐ Good coaching at young ages is critical

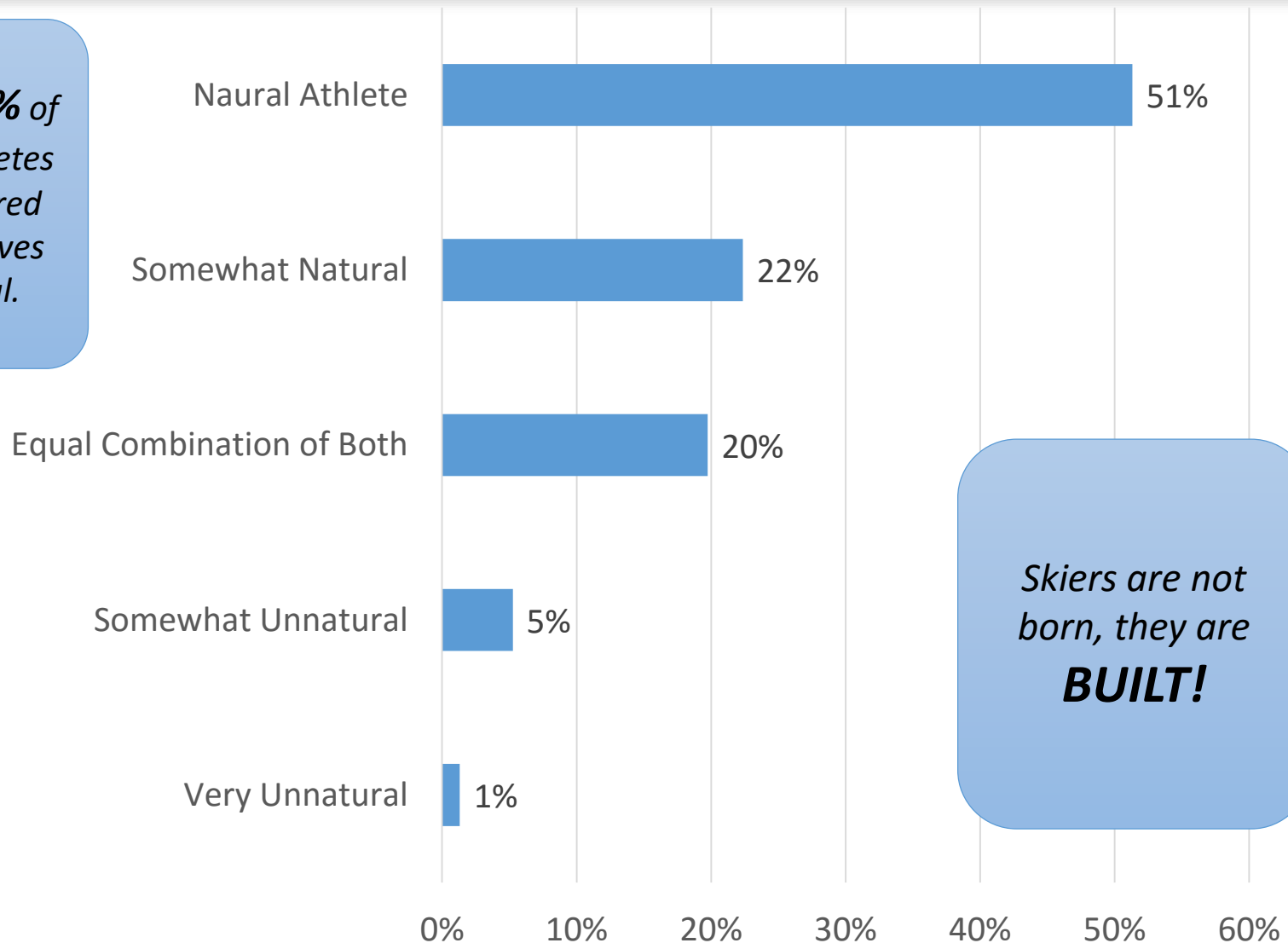


## At what age did you first ski?



## Would you consider yourself a natural athlete?

Only **51%** of **top** athletes considered themselves natural.



*Skiers are not born, they are **BUILT!***

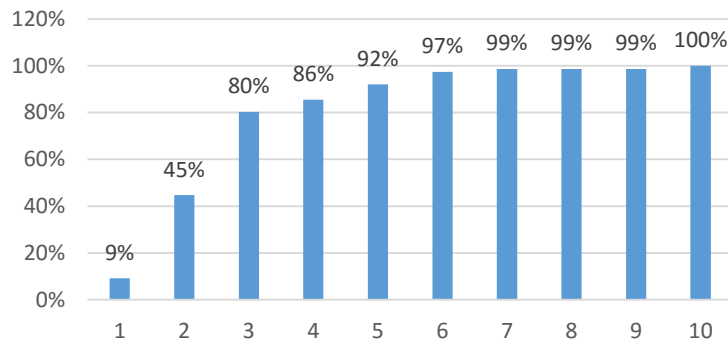
Success is found at a young age.

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Finding #7

## Age at each development milestone...

**First started skiing**

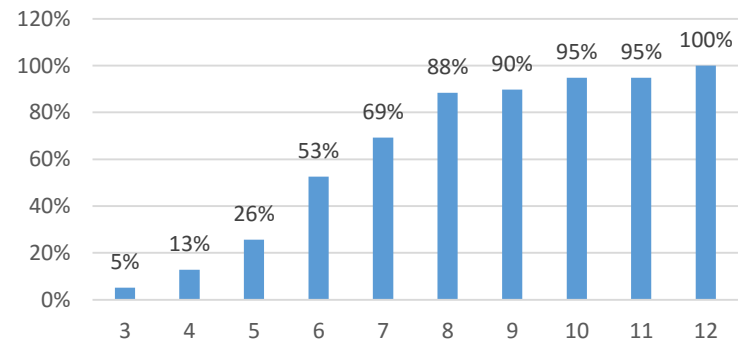


80% skiing by 3...



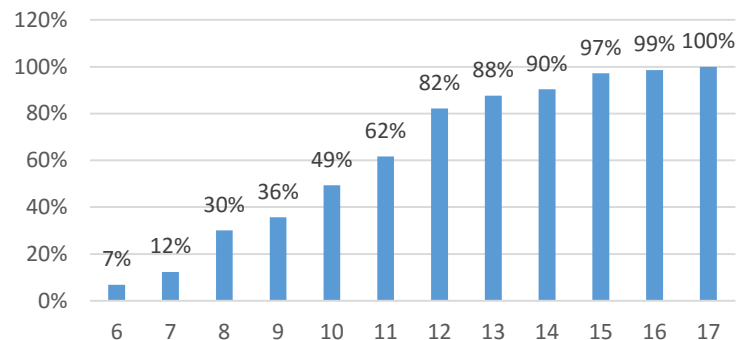
88% ski racing by 8...

**First started ski racing**



# Age at each development milestone...

## First regional success

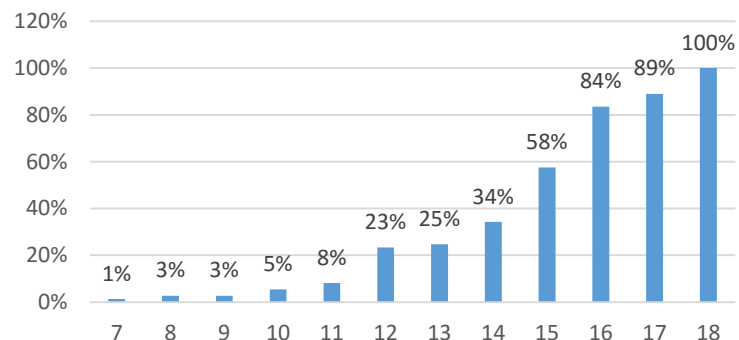


80% first regional success by 12...

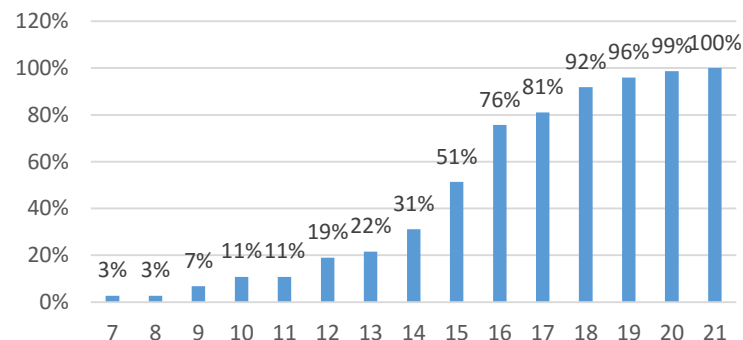
84% made junior team by 16...

76% national success by 16...

## Made junior team



## First national success



There are some outliers, but women tend to reach high-performance earlier than men.

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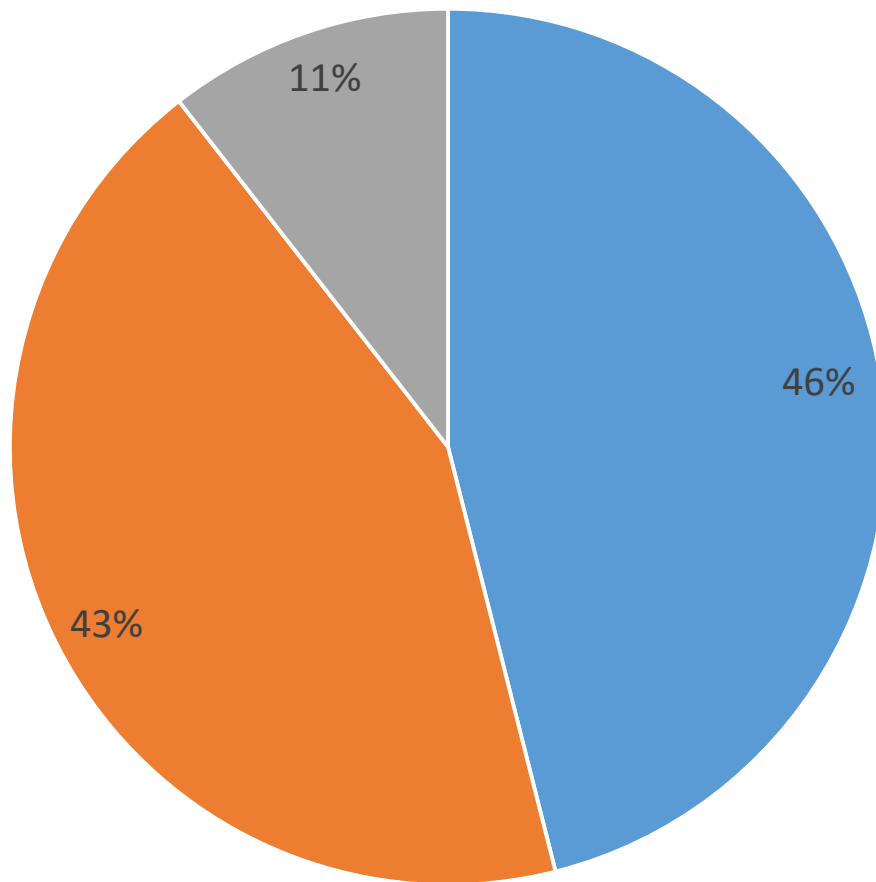
	1 <sup>st</sup> WC start	1st Points	1 <sup>st</sup> Podium
Women	18	19	22 (SG21)
Men	20	21	24 (GS23)

Parents are the biggest influencers.

---

Finding #9

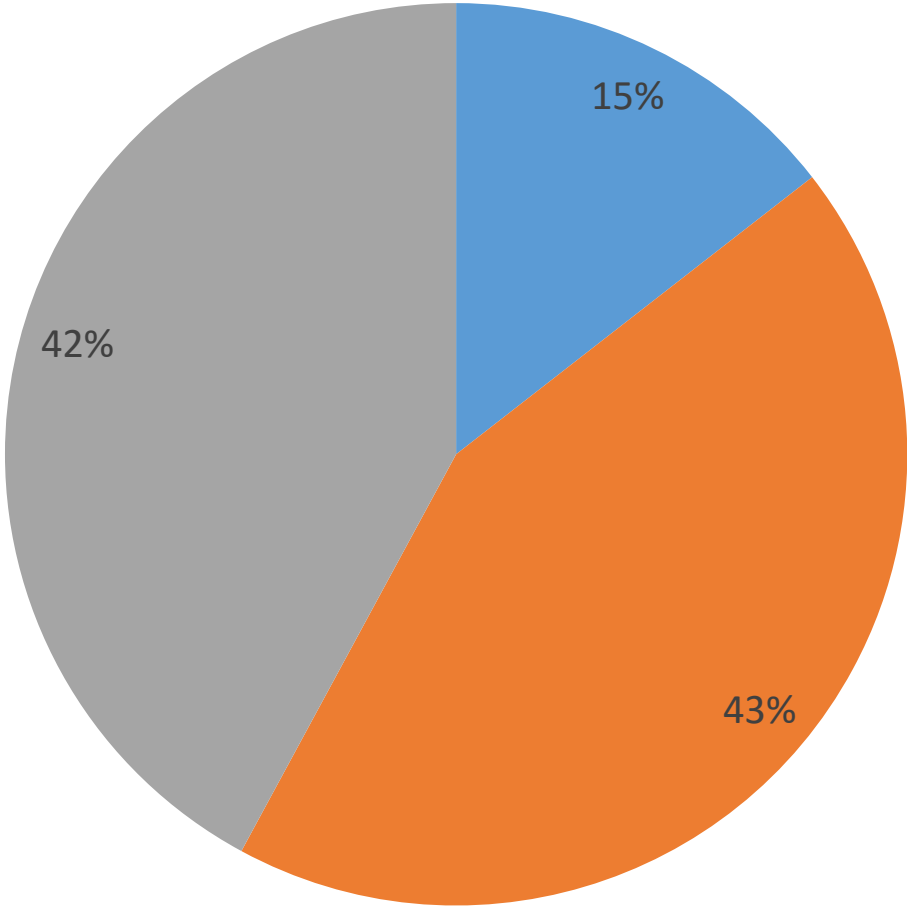
## Was your family “fans” of the sport?



■ Extremely ■ Somewhat ■ No

**89%** of athletes' families were fans of ski racing.

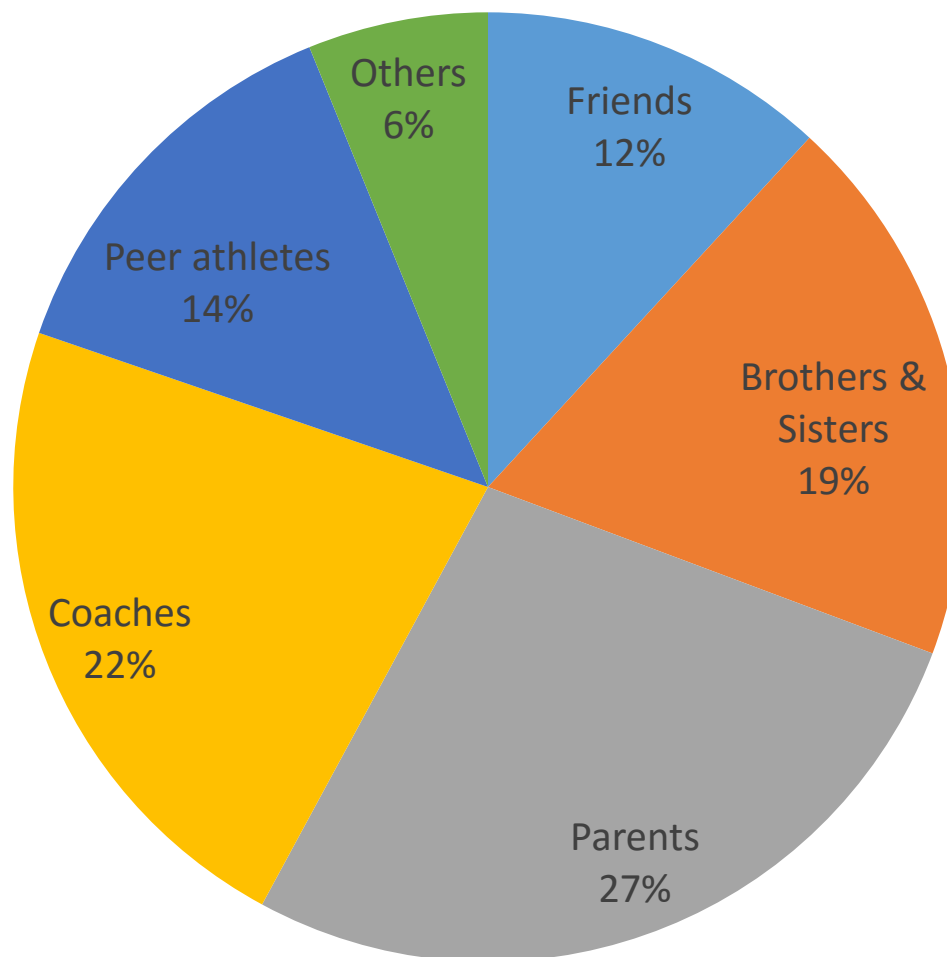
How involved were your parents when you decided to concentrate on skiing as your primary sport?



*85% of parents  
were involved  
when athletes decided to  
pursue the next level...*

- Not involved
- Moderately involved
- Extremely involved

## Who were the most influential people on your early ski racing career?



**46%** are  
family  
members.

Coaches and  
peers make up  
**36%.**

Skiing is cultural to Europeans.

---

Finding #5

## Skiing is cultural to Europeans

- ☐ Families, communities, even entire nations revolve around ski racing
- ☐ “20 Buck Hill’s in Oslo”
- ☐ Hundreds of small hills in Alps
- ☐ “If I didn’t ski I wouldn’t have had any friends.”
- ☐ Kids ski every day

***Lots of volume  
young!***



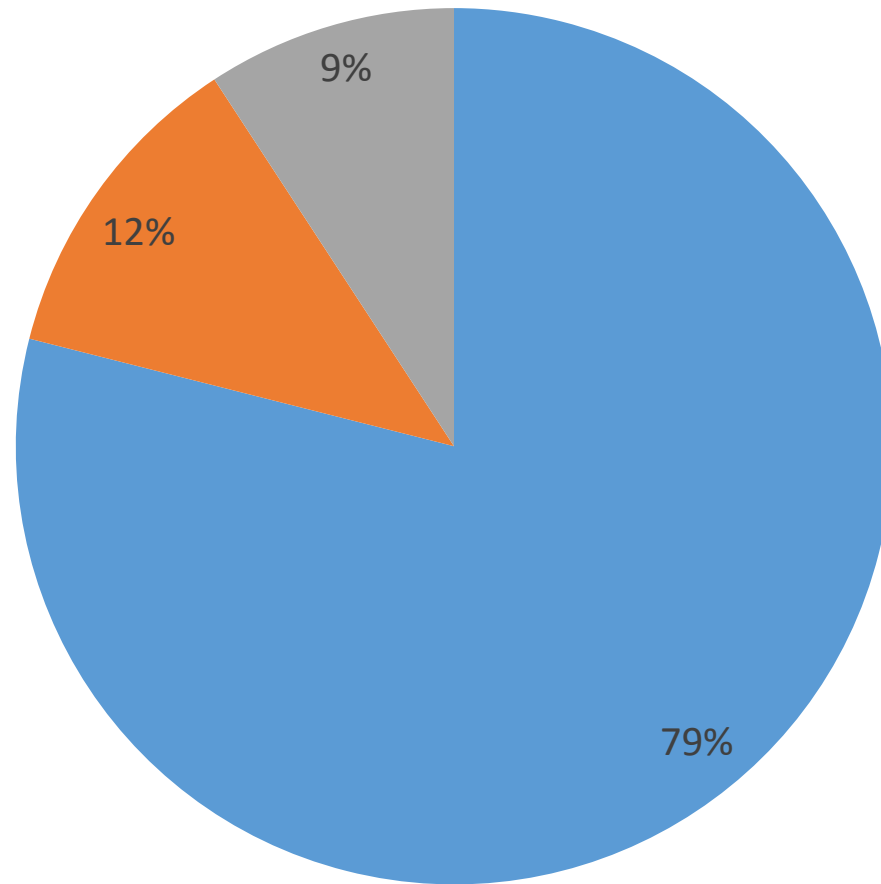
Volume is critical to development.

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Finding #8

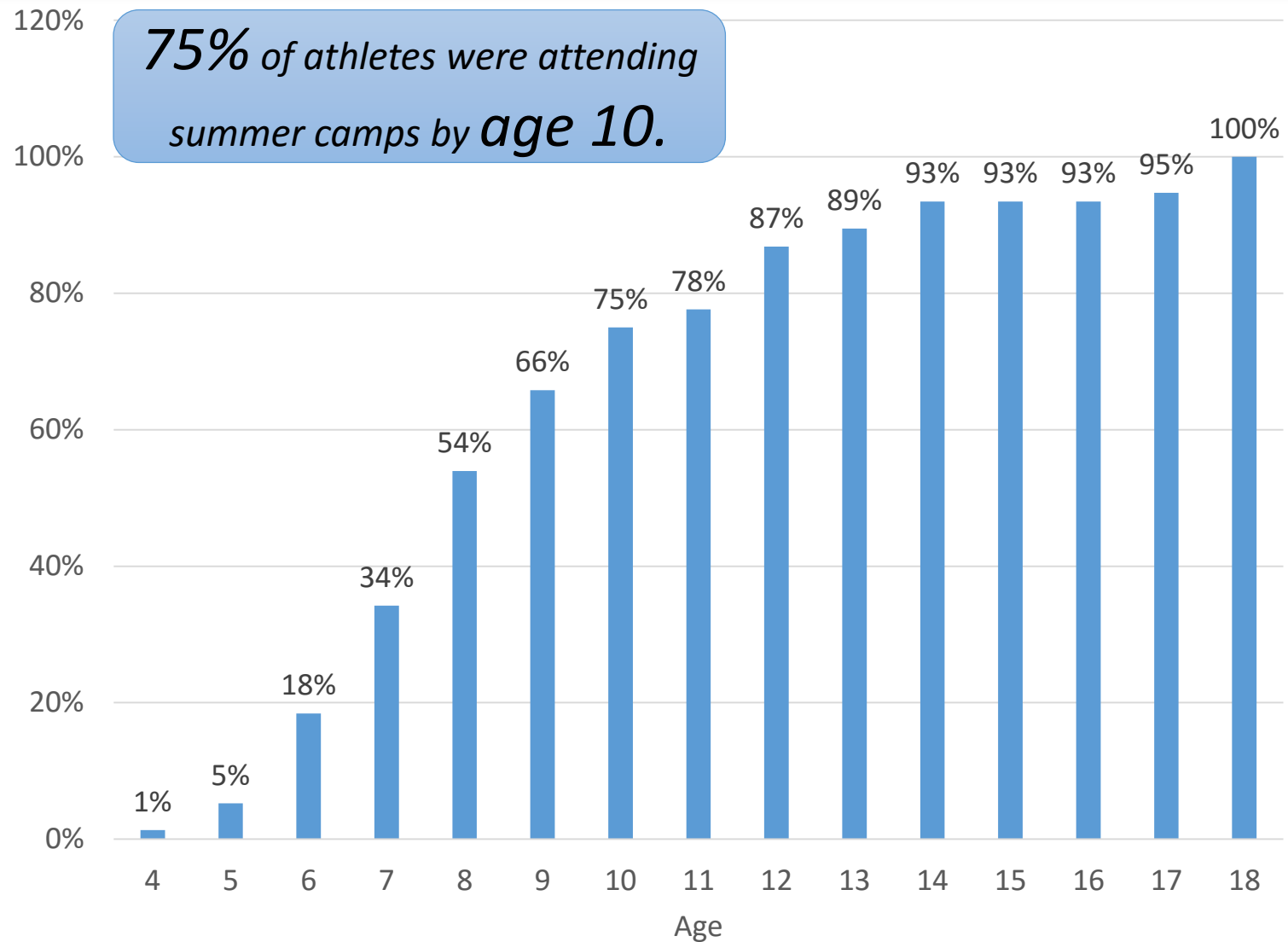
## Growing up, how long was your drive to the mountains?

**79%** lived  
within **one**  
**hour** of  
the  
mountains.



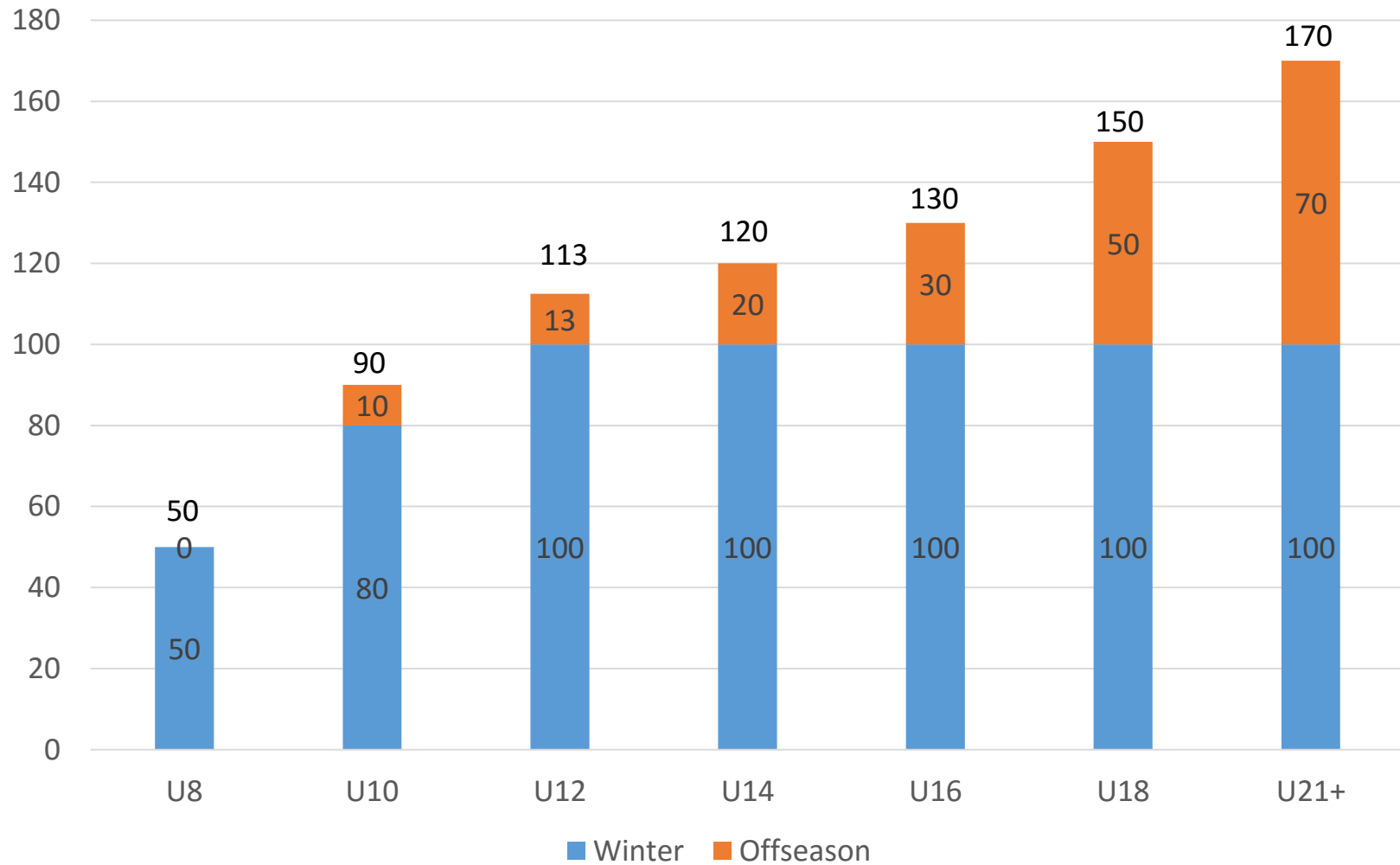
■ <1 hour   ■ 1-2 hours   ■ 2+ hours

## At what age did you begin attending summer training camps?



## What does volume look like?

Total On-snow Days per Year: Winter and Offseason



Concentration, not specialization.

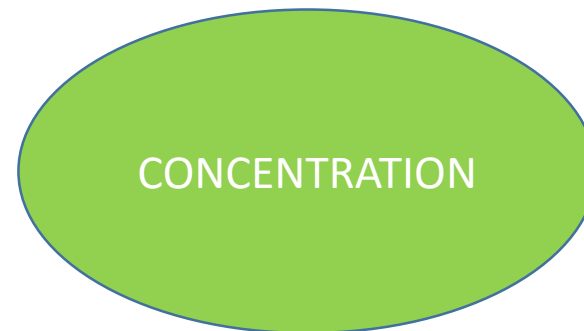
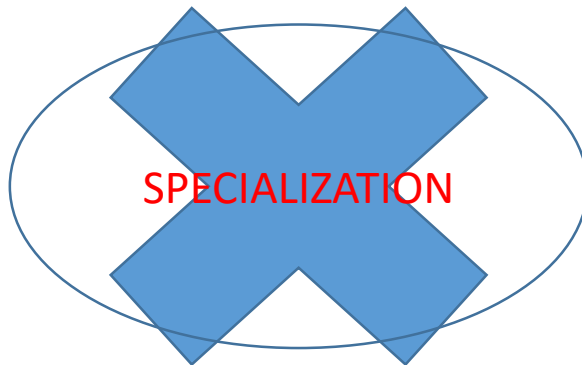
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Finding #4

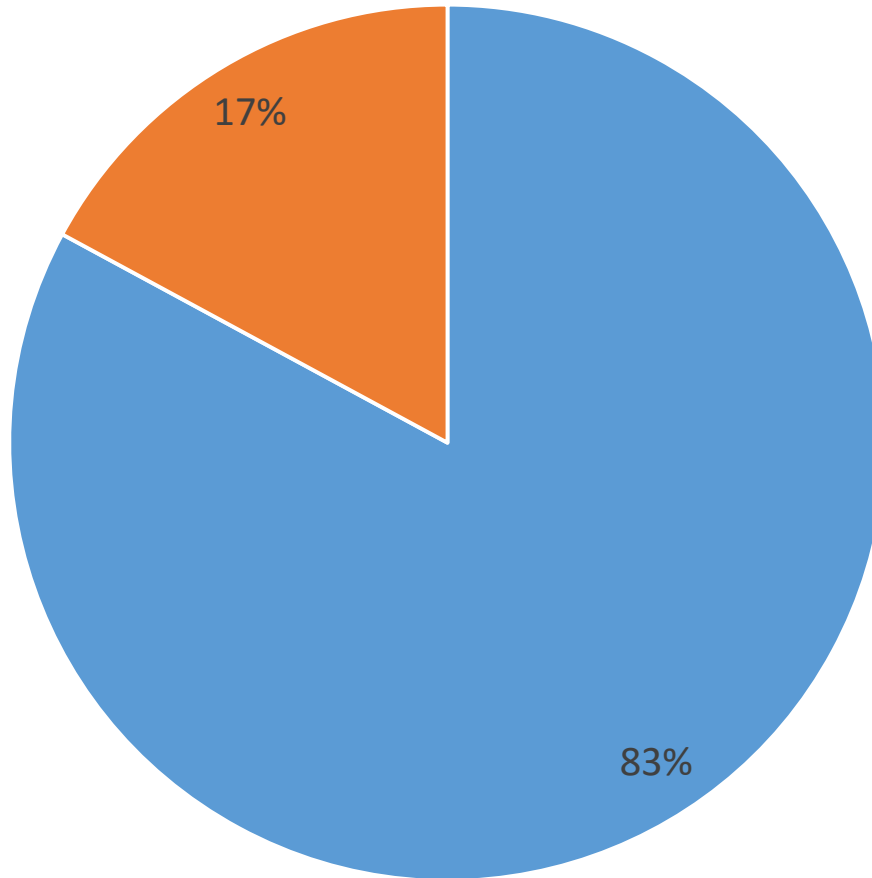
## Specialization or Not?

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- ☐ Wrong Question!
- ☐ Clearly high volume of ski specific training is required. More than recreational.
- ☐ Answer is to Concentrate
  - Ski when there is snow on the ground
  - Do not let other sports interfere with skiing



## Did your family encourage participation in other sports?

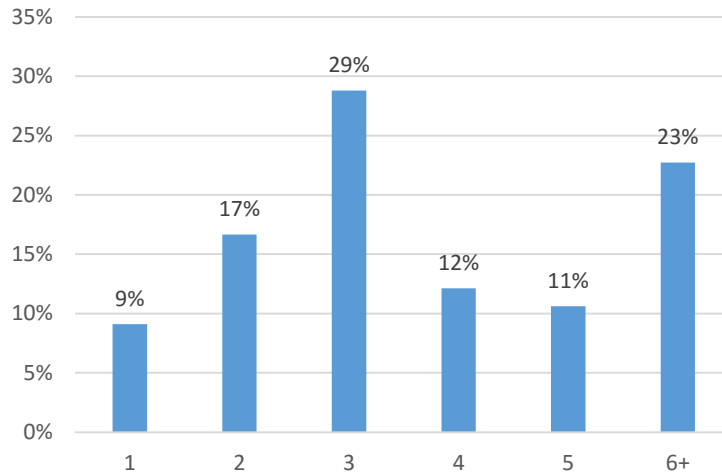


■ Yes ■ No

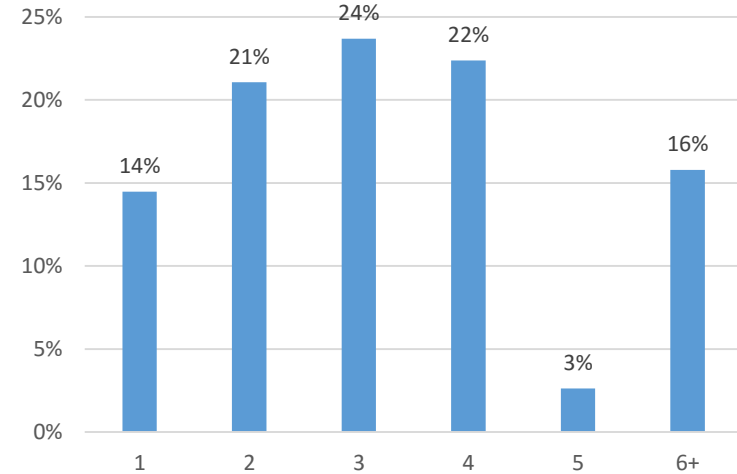
**83%** said their families encouraged multiple sports.

## Number of sports regularly practiced at younger ages...

**Age 0-12**



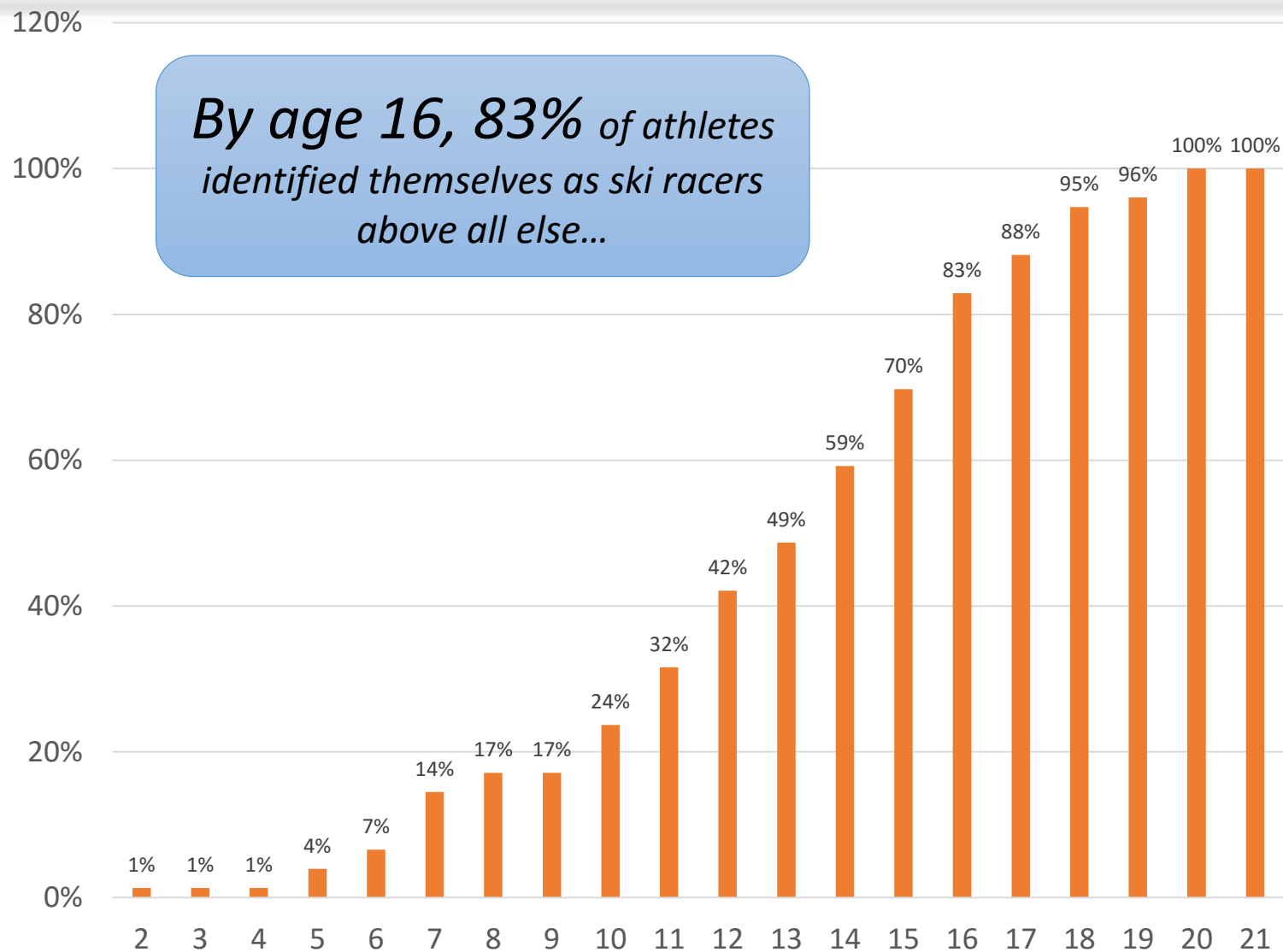
**Age 13-15**



*75% played 3  
or more  
sports at 0-12*

*70% played  
between 2-4  
sports at 13-15*

## At what age did ski racing become your primary activity?



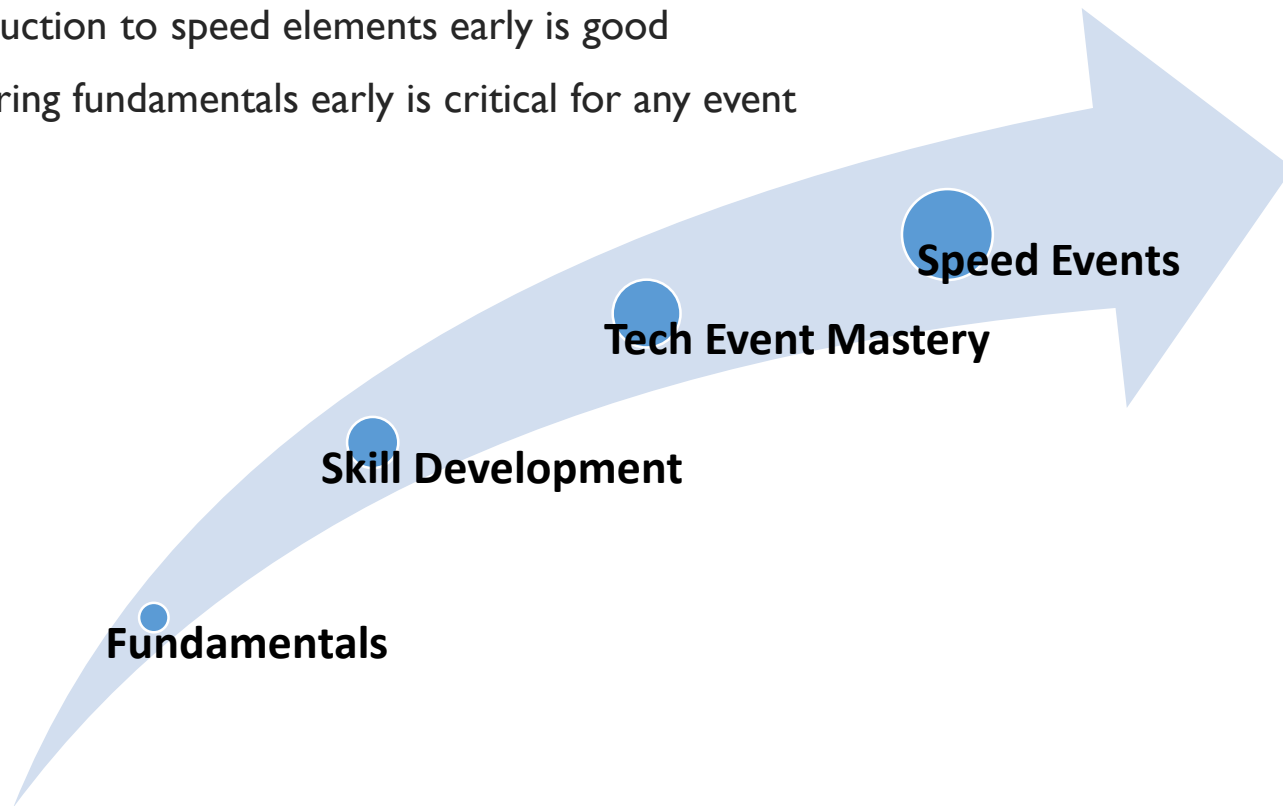
Speed skiers are good tech skiers too.

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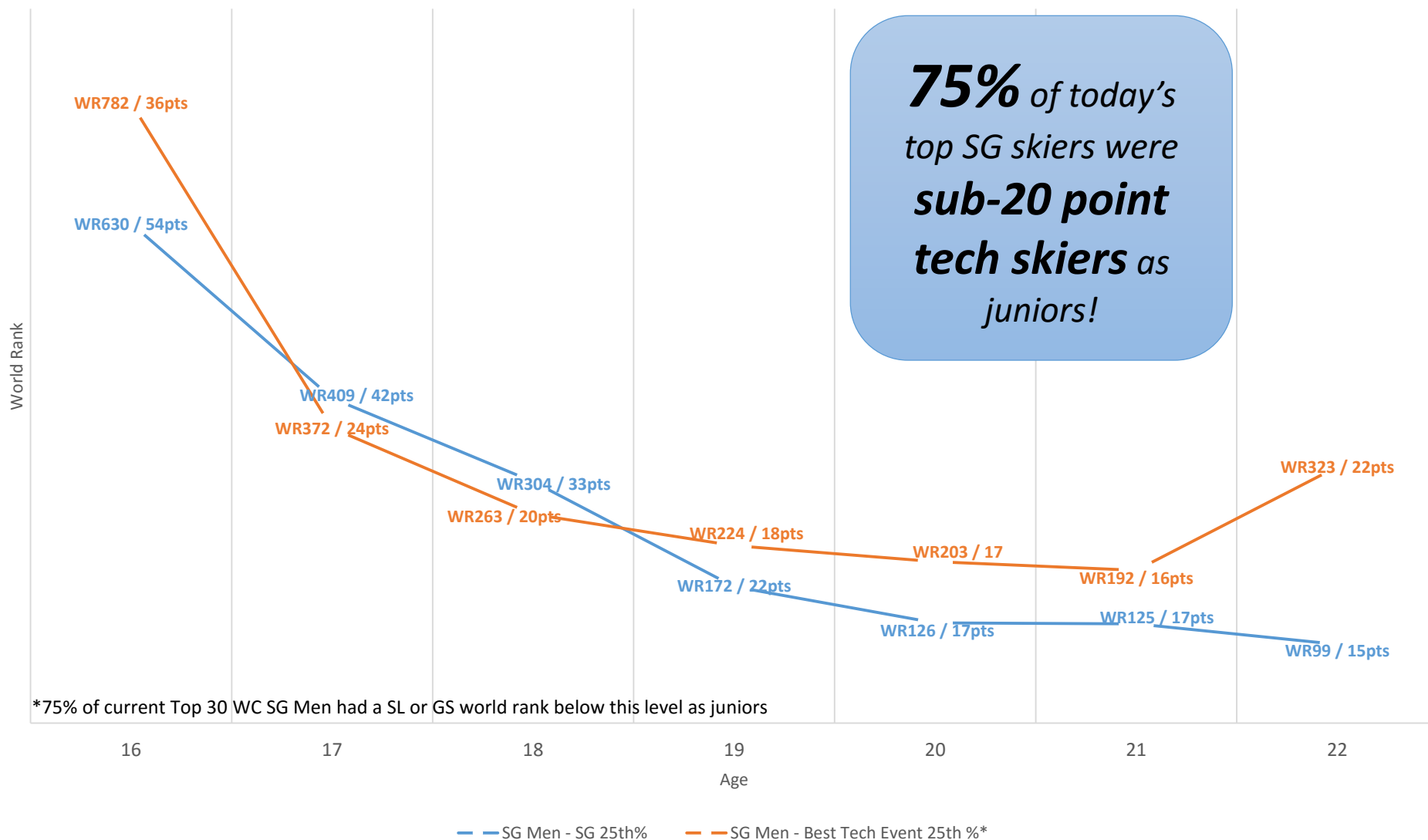
Finding #6

## Speed skiers are good tech skiers too.

- ☐ Ski racing is becoming more technical
- ☐ SL/GS skills are paramount
- ☐ Introduction to speed elements early is good
- ☐ Mastering fundamentals early is critical for any event

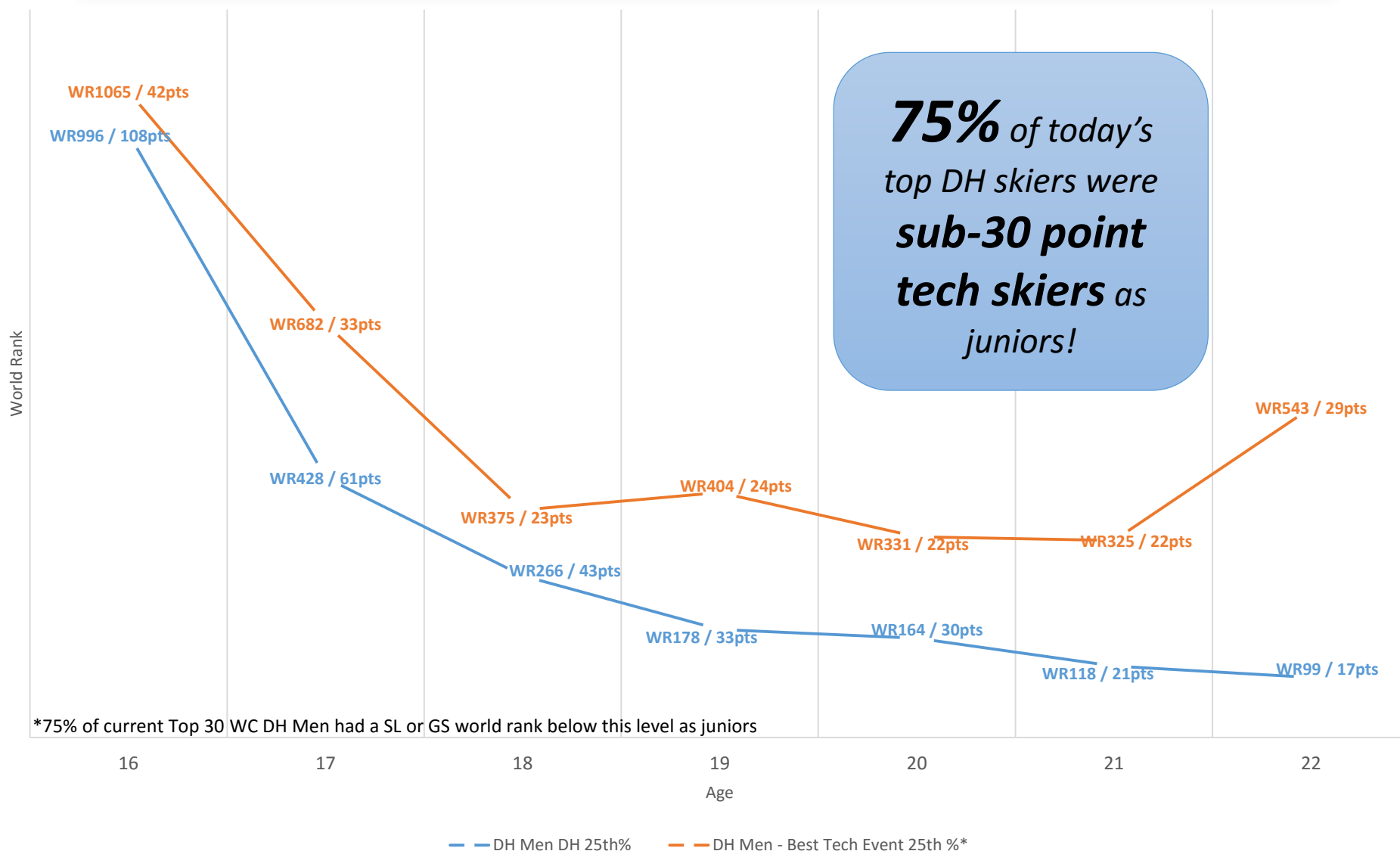


# World Cup Top 30 Super G Men 25<sup>th</sup> Percentile World Rank with 25<sup>th</sup> Percentile Best Tech Rank as Juniors



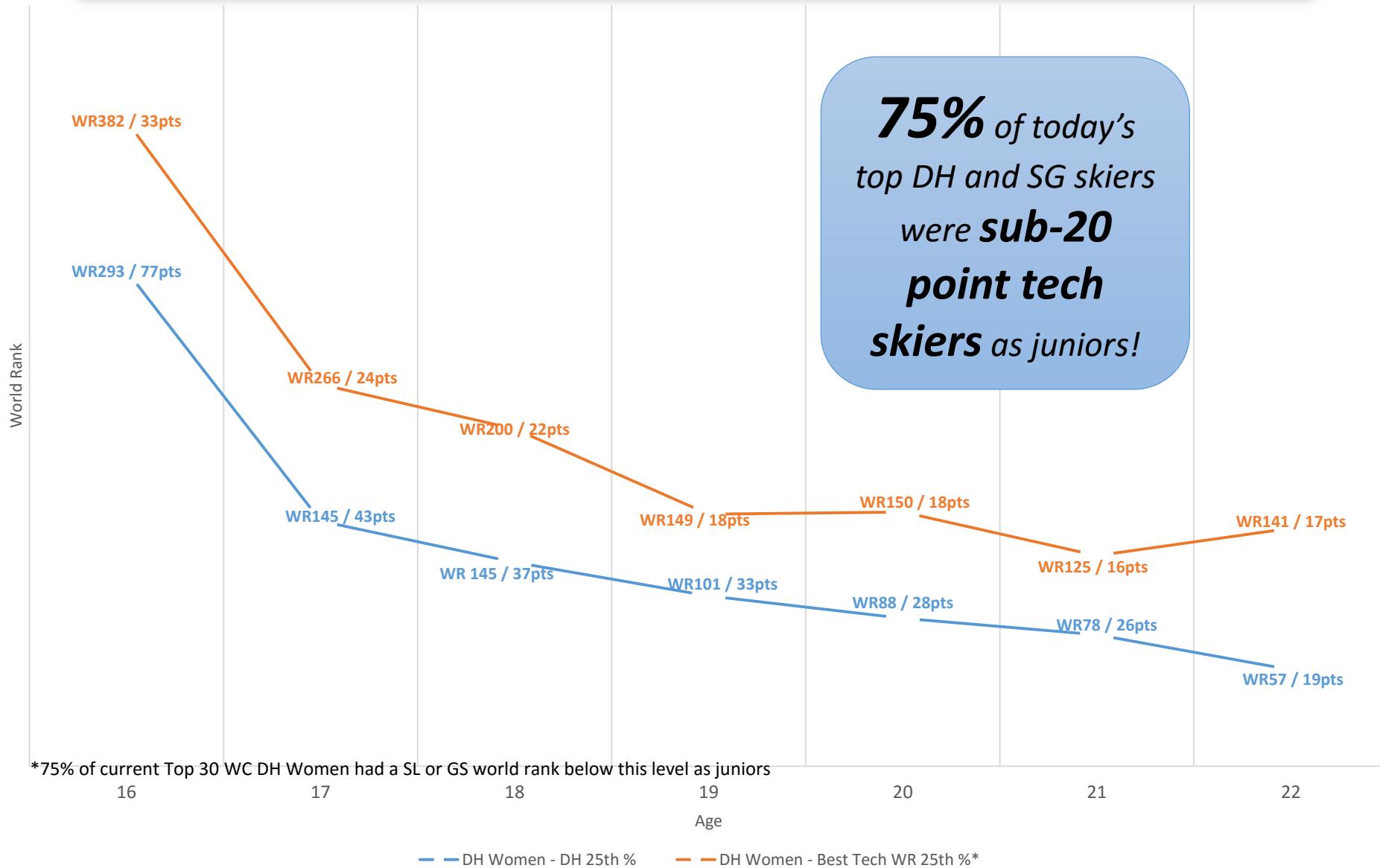
\*2015 points are included for illustrative purposes but are not a consistent measurement over time

# World Cup Top 30 Downhill Men 25<sup>th</sup> Percentile World Rank with 25<sup>th</sup> Percentile Best Tech Rank as Juniors



\*2015 points are included for illustrative purposes but are not a consistent measurement over time

# World Cup Top 30 Downhill Women 25<sup>th</sup> Percentile World Rank with 25<sup>th</sup> Percentile Best Tech Rank as Juniors



\*2015 points are included for illustrative purposes but are not a consistent measurement over time

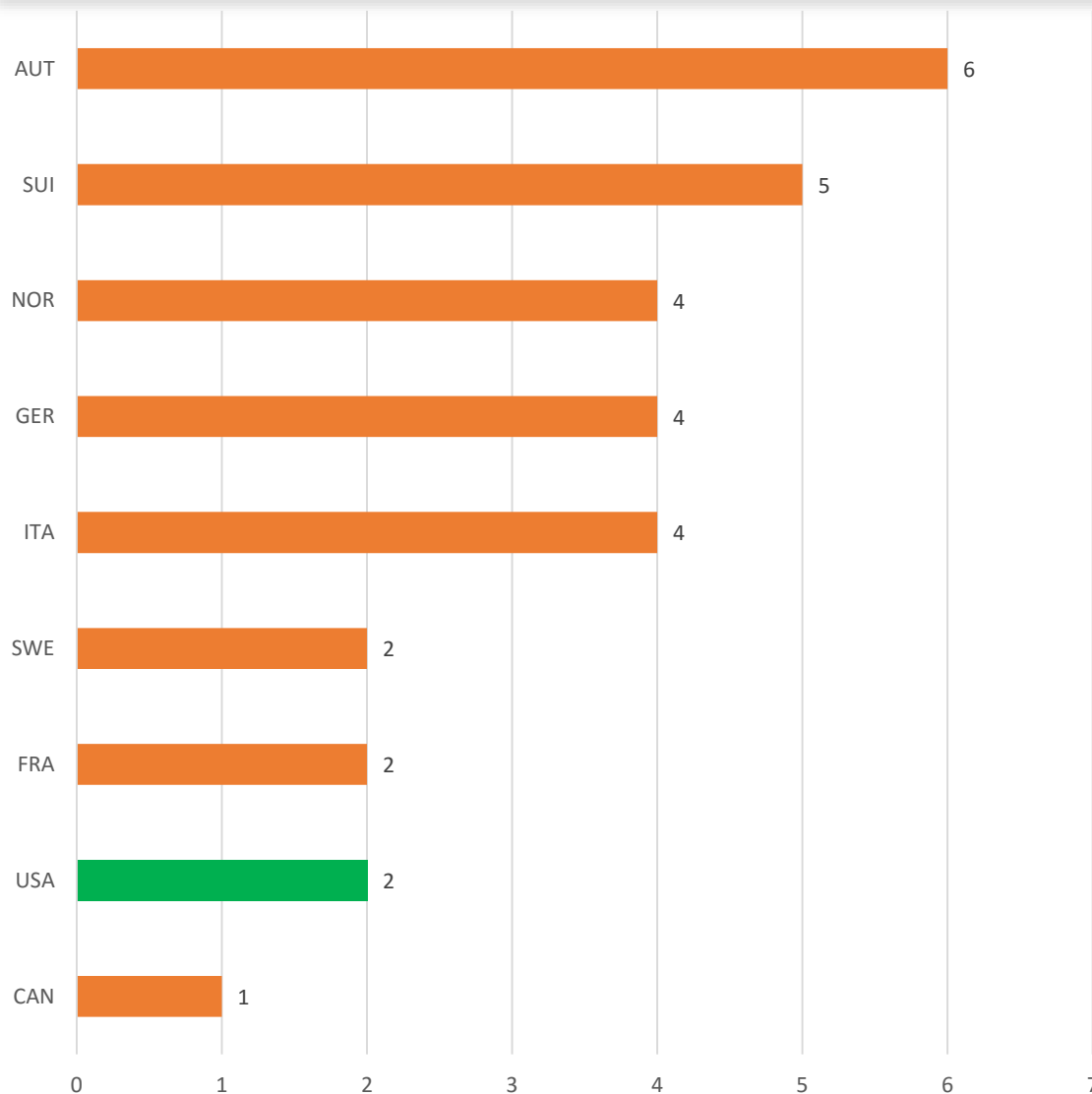
USA juniors today trail our competitors.

---

Finding #10

# Men SL

## Current 16-22 Year-olds Who Meet World Cup 25<sup>th</sup> Percentile Criteria



❑ USA 8<sup>th</sup> out of major countries

❑ 45 athletes (age 16-22) worldwide meet 25<sup>th</sup> Percentile

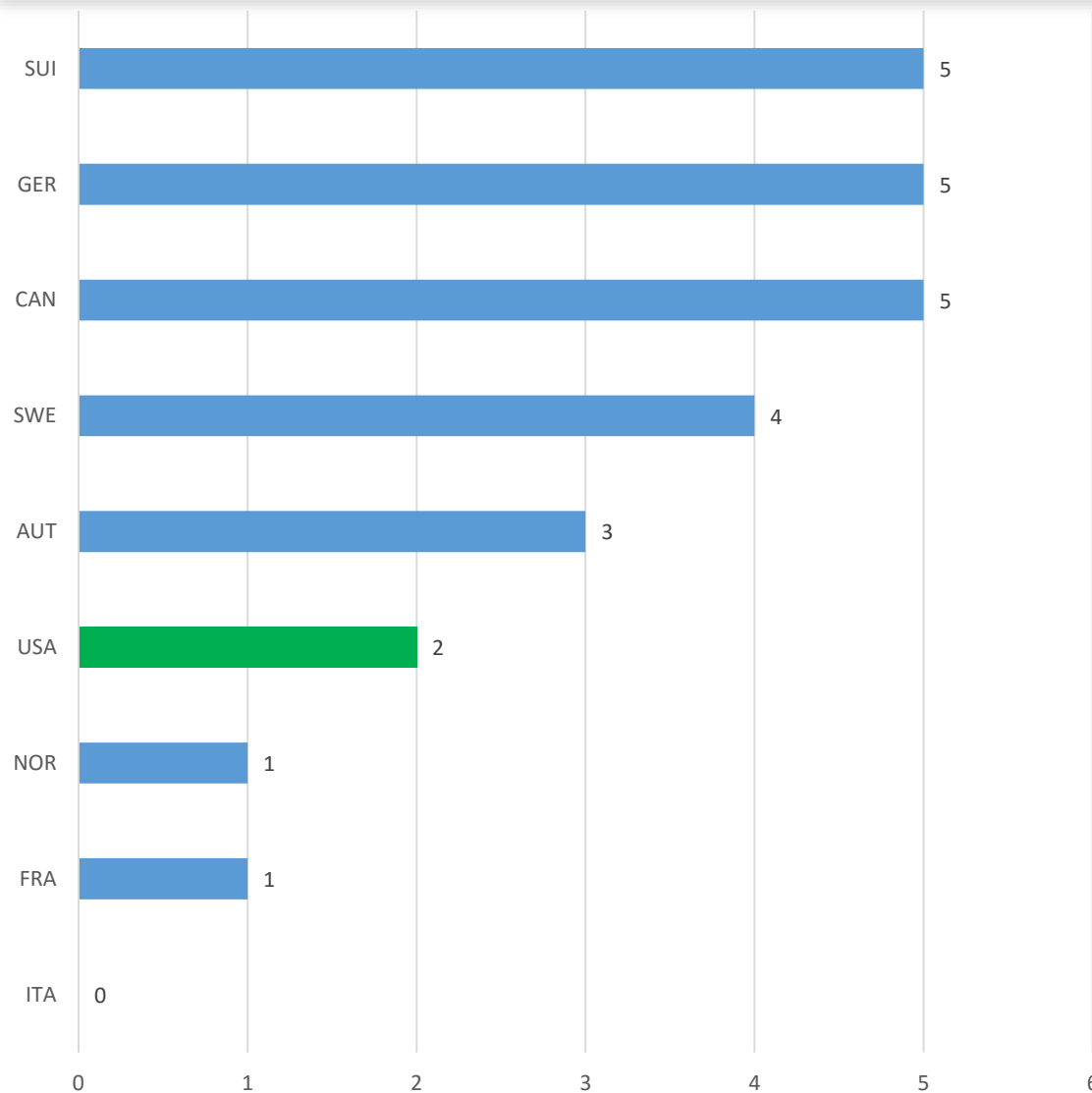
USA:

1. Garrett Driller (1996)
2. AJ Ginnis (1994)

\*based on end of 2015 season

# Women SL

## Current 16-22 Year-olds Who Meet World Cup 25<sup>th</sup> Percentile Criteria



❑ USA 6<sup>th</sup> out of major countries

❑ 29 athletes (age 16-22) worldwide meet 25<sup>th</sup> Percentile

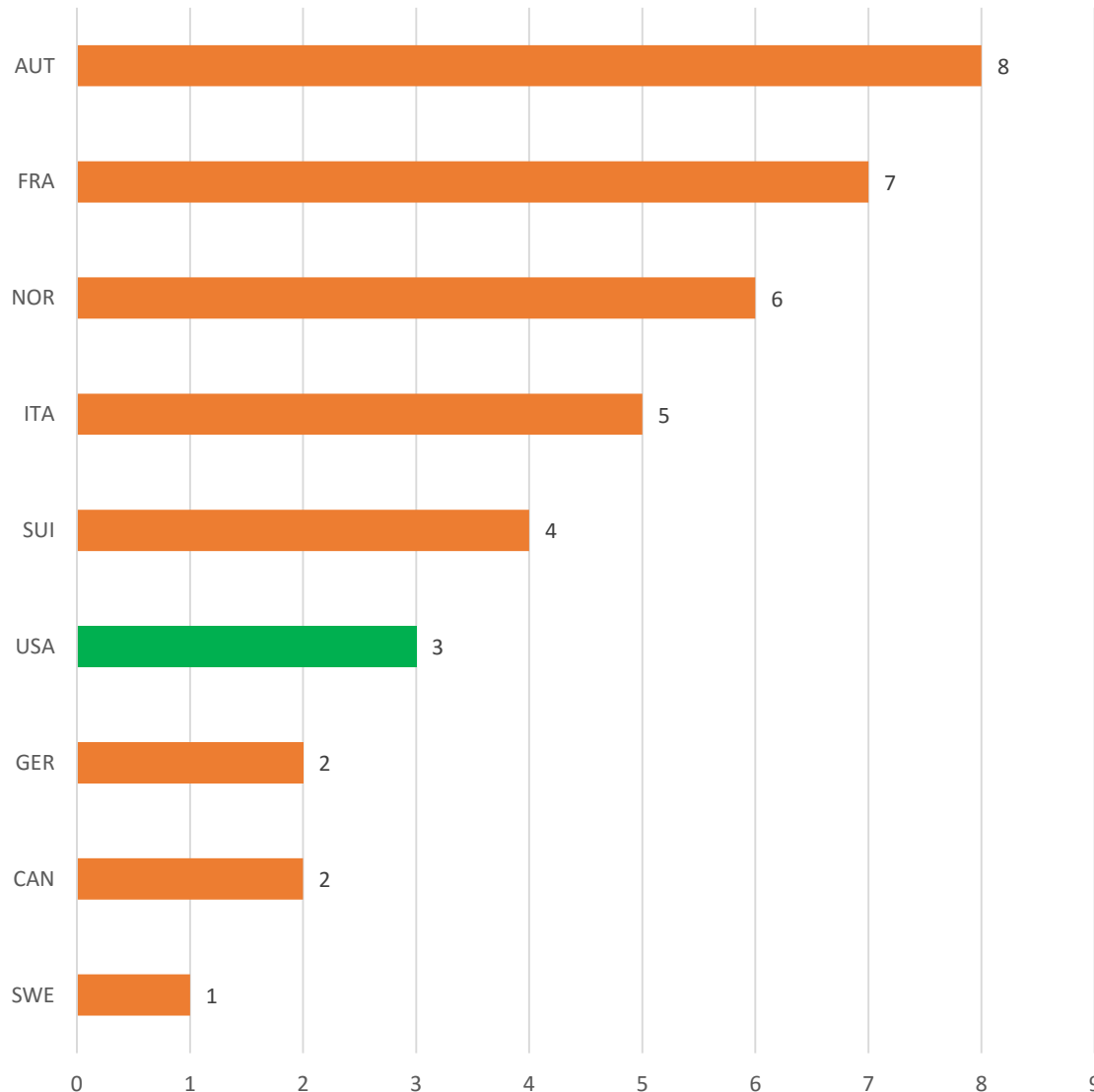
USA:

1. Mikaela Shiffrin (1995)
2. Paula Moltzan (1994)

\*based on end of 2015 season

# Men GS

## Current 16-22 Year-olds Who Meet World Cup 25<sup>th</sup> Percentile Criteria



❑ USA 7<sup>th</sup> out of major countries

❑ 56 athletes (age 16-22) worldwide meet 25<sup>th</sup> Percentile

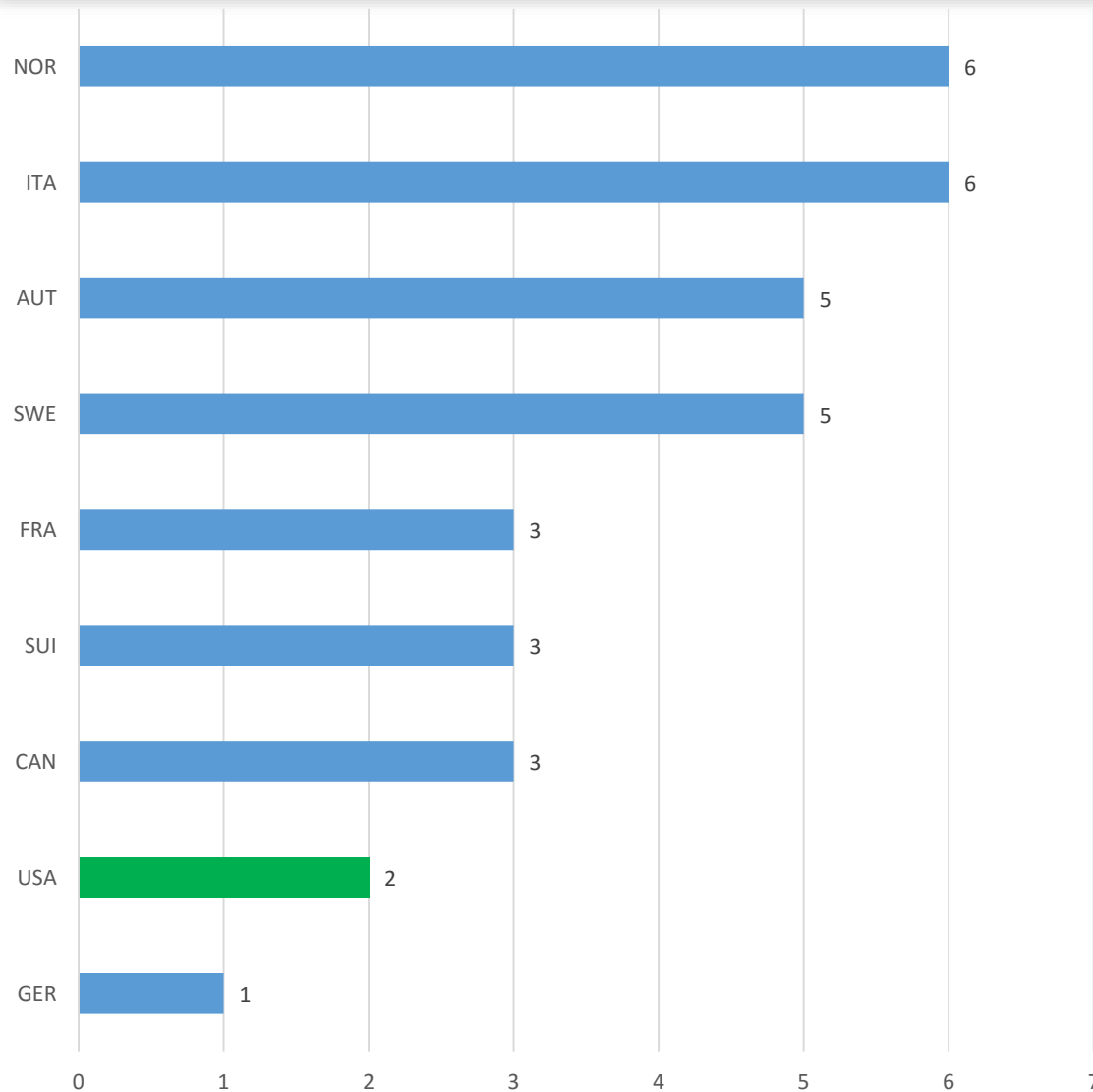
### USA:

1. Kipling Weisel (1995)
2. Ryan Cochran-Siegle (1992)
3. Kieffer Christianson (1992)

\*based on end of 2015 season

# Women GS

## Current 16-22 Year-olds Who Meet World Cup 25<sup>th</sup> Percentile Criteria



❑ USA 8<sup>th</sup> out of major countries

❑ 40 athletes (age 16-22) worldwide meet 25<sup>th</sup> Percentile

From USA:

1. Nina O'Brien (1997)
2. Mikaela Shiffrin (1995)

\*based on end of 2015 season

USA is at a disadvantage to other ski racing nations

---

- ☐ Financial sacrifice is high barrier to entry/continuation
- ☐ USA is short on volume at young ages
- ☐ Skiing culture not as prevalent

**What can we do to improve?**



## Financial Sacrifice is High Barrier to Entry/Continuation

---

- ❑ Bad news/good news...
  - Self funding model allows for late bloomers
    - Can NCAA be a pipeline for USA?
  - Need for awareness and education
    - Is so much racing and travel really necessary?
- ❑ Programs to lower cost
  - Local spring/fall camps for off-season
  - Investment in state of the art snowmaking
  - Cultivation of alternative training sites
- ❑ Prioritization of NorAm's
  - Critical USST supports high quality, low point series.
  - Create high quality racing opportunities close to home

## USA behind on volume at young ages

### ☐ Improve access

- night skiing
- state-of-the-art snowmaking
- quick turnaround
- school collaboration
- proximity to mountains



### ☐ Structure programs around best practices:

- Focus on mastery of fundamental techniques. Disciplined practice matters most.
- Create skiing and racing opportunities as early in life as possible.
- Educate about international best practices pathway.
- High quality programs and coaching at all age groups.
- Create inclusive, yet high-performance training environments.
- Encourage other sports, but concentrate on skiing.
- Structure younger development teams to focus on tech over speed.

## Skiing culture not as prevalent in USA

- ❑ Create **micro-cultures**. Community by community.
  - Educate and engage parents
  - Importance of best practices
  - Engage media
  - Celebrate hero's
  - Engage school systems
  - Access and quality of training environments
  - Cultivate donors



## Overarching Conclusion: Ski racing is a no-lose sport.

- ☐ Pursuing ski racing at ANY level of commitment is positive.
- ☐ Inherently rewarding in and of itself
- ☐ No apologies or sacrifices needed...fun activity
- ☐ Generations of ski racing shows lifelong positive values
- ☐ Promotes personal development, maturity, confidence, accomplishment and physical well-being





Thank you for your time and to the athletes for their participation.

Kris Ochs  
[kris@leeeverpartners.com](mailto:kris@leeeverpartners.com)  
303-214-8208

Dan Leever  
[dan@leeeverpartners.com](mailto:dan@leeeverpartners.com)  
561-331-1890